

VISION 2020 Report on World Sight 2002

VISION
2020
THE RIGHT TO SIGHT



INTERNATIONAL AGENCY
FOR THE PREVENTION
OF BLINDNESS

**Every five seconds
one person
in our world
goes blind...**

**and a child
goes blind
every minute**

*Seeing is
Believing*



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Foreword



This is the first annual VISION 2020 Report on World Sight.

The main aim of this year's report is to bring the problem of eye care to a wider audience and raise awareness that blindness is much more than just a health issue.

For a number of years, professionals in the eye care field, NGDO's and the World Health Organization have worked to address the increasing number of blind people. At present at least 45 million people are blind and the number is increasing by one to two million per year. If one also realizes that four in five blind people have conditions for which there are successful treatments then the need to act now becomes an even greater imperative.

Add to this, the reality that most blind people live in the poorest parts of the world, where they wrestle daily with all the conditions of poverty – lack of water, AIDS, malnutrition, TB, Human Rights abuses; it seems doubly wrong that millions of people, yet each with their own individual story, should be needlessly blind from lack of treatment, which could make them fully able to support themselves and their families.

Eye care professionals have spent years developing improved treatments for the main causes of avoidable blindness. The World Bank has assessed these treatments as some of the most successful and economically justifiable interventions in the whole field of Health Care.

The message, that there are millions of people who are needlessly blind; who often die prematurely because of their condition; or are discriminated against to the point where it is difficult to escape the poverty trap in which they find themselves, must now reach a wider audience.

Government leaders, politicians of all persuasions, media teams, business leaders, the international community and the public at large need to become involved in addressing this growing tragedy. Here is one area where people can make a real difference to the needless suffering of millions of people by engaging with VISION 2020: The Right to Sight.

The global number of people with blindness is projected to increase from around 45 million in the year 2000, to over 75 million by 2020. If the VISION 2020 initiative is implemented the number of blind people is estimated to be less than 25 million in 2020. This would save over 400 million years of blindness between now and 2020. The economic productivity loss associated with blindness is conservatively estimated in the tens of billions of dollars per year. This will at least double over the next 20 years if we do not implement VISION 2020 now.

We cannot, as a world, afford not to respond. If governments become involved by developing a National VISION 2020 (Blindness Prevention) Strategy and implementing it, they will create new resources that can assist the more difficult areas of poverty alleviation, health care and human rights abuses.

**"...There are
45 million
blind people in the
world...
...without
VISION 2020
blindness is
projected to reach
75 million
by the year 2020!"**

This report covers not only the main aims of the global initiative VISION 2020: The Right to Sight, but it also looks at the following issues:

- Blindness Prevention with and without the VISION 2020 programme
- Blindness, Poverty, Communicable Diseases, Ageing and Human Rights
- Reducing the Global Cost of Blindness
- International Success Stories for the
- Elimination of Avoidable Blindness.
- Specific Control Measures
- Monitoring and Indicators of Global Blindness
- Regional Analysis of VISION 2020's work

This is the first of these reports. We have kept it as non-technical as possible because we want to engage as many people as possible who can really make a difference. We hope that the information and success stories will persuade politicians how important and relatively inexpensive it is to reduce blindness and improve people's vision. We hope that journalists and those in the media will create opportunities for VISION 2020 messages to be communicated far and wide.

And finally we need resources in cash and kind to do more. We are beginning the lengthy process of involving those who have such resources to help achieve the vision of a world where no-one is needlessly blind.

Dr Hannah Faal
President

M. R. Whitlam, CBE
Chief Executive Officer

International Agency for the Prevention of Blindness

Executive Summary

- This is the first annual VISION 2020 report. The main aim is to bring the problem of avoidable blindness to a wider audience and raise awareness that the right to sight is much more than just a health issue. The report shows examples of work in progress (from which people can learn) and that there are cost effective solutions already available to combat avoidable blindness.
- Every five seconds one person in our world goes blind... and a child goes blind every minute. These are alarming statistics, yet blindness is still perceived as a



low priority issue. The report looks at the state of the world's sight and particularly highlights the work of the international programme to eliminate avoidable blindness - VISION 2020: The Right to Sight. Each year more information will be gathered from a wider audience so that this report becomes increasingly useful to all those engaged in eliminating avoidable blindness.

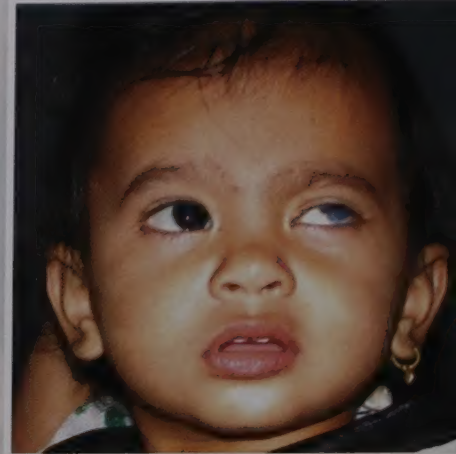
- Blindness has profound human and socio-economic consequences in all societies. The cost of education, rehabilitation and lost productivity due to blindness is a significant economic burden, on families, communities and nations, particularly those in economically deprived areas of the world. Furthermore, in such

settings, blindness is often associated with lower life expectancy. Thus, the prevention and cure of blindness can provide enormous savings and facilitate societal developments. Unfortunately there is generally a reduction in available funds for blindness prevention from the governments of developing countries, due to a combination of



economic recession and new, competing demands for limited resources.

- Needless blindness and poor vision can be eliminated only if people worldwide have access to sight-saving medical and surgical techniques. There is a clear need for trained eye doctors and eye care teams; increased availability of ophthalmic equipment, instruments, and medicines; and more effective systems for identifying, referring and treating patients.
- The treatments available for the prevention and cure of blindness are among the most successful and cost-effective of all health interventions.
- The latest estimate for the direct economic cost of the global burden of blindness is more than US\$28 billion per year. We will be publishing new figures in the near future which show that the economic burden is increasing thereby accelerating the urgency to act.
- The VISION 2020 initiative is one where the solutions are known and the expertise and knowledge is well documented. We owe it to the millions of needlessly blind and visually impaired people to make this campaign a success.
- To make the fight against avoidable blindness possible, governments, as part of the unique partnership in VISION 2020: The Right to Sight need to make a strong political commitment. There is an equally important role for the Private Sector and Civil Society.



Global Overview

- There are 45 million blind people and 135 million with low vision, comprising a total of 180 million people with significantly poor vision.¹
- 80% of blindness is avoidable (either treatable 60% or preventable 20%)
- 90% of the world's blind people live in developing countries; there are at least nine million blind people in India, six million in China, and seven million in Africa
- People who live in the developing world are 5-10 times more likely to go blind than people who live in highly industrialized countries
- It is estimated that at least seven million people become blind each year

- Without proper interventions the number of blind will increase to 75 million by 2020
- Currently the priorities for eliminating avoidable blindness are cataract (an eye disease of ageing), eye infections (trachoma and onchocerciasis), visual loss in children, correction of refractive errors and low vision services
- Half of all blindness is due to curable cataract.
- Other preventable causes of visual loss such as diabetic retinopathy and glaucoma can be included, on a country by country basis, depending on local priorities
- The treatments available for the prevention and cure of blindness are among the most successful and cost-effective of all health interventions

¹These numbers are based on 1996 population estimates



Blindness Prevention with and without VISION 2020

- VISION 2020 aims to prevent 100 million men, women and children from becoming blind over the 20 year period 2000-2020, resulting in a global saving estimated to be over US\$150 billion. This figure could be much higher when indirect costs and less cautious estimates are taken into account. Detailed figures are expected to be published within the next few months.
- When one considers that the economic impact of blindness is affecting those countries that have a huge burden of poverty to contend with, then it seems to be

even more important that the world challenges this problem.

The report looks at the cost of global blindness, highlighting as an example the state of blindness in India; the number of blind cases with and without VISION 2020 by the year 2020; and the prevalence of world blindness.



Blindness, Poverty, Communicable Diseases, Ageing and Human Rights

- The core diseases on which the VISION 2020 programme is concentrating are linked to issues such as poverty, communicable diseases, ageing and human rights. To be successful, VISION 2020 must work within the context of these issues.
- Trachoma, Onchocerciasis and Vitamin A deficiency (childhood blindness) are diseases affecting the poorest of the poor. They are indicators of poverty. They also particularly affect women and children. Control of such diseases requires primary health care and community development - water, sanitation, nutrition and basic medicines.

The report looks at how we can learn from other programmes and papers including: 'Report on International Development Targets for Halving World Poverty by 2015'; 'Human Development Report 2002: Deepening Democracy in a Fragmented World'; 'The State of the World's Children Report 2002' and 'Building Partnerships: Cooperation between the United Nations system and the Private Sector'. The message is clear, blindness is not simply a health care issue, it is an issue that affects all facets of life, and concerns everyone.

Reducing the Cost of Global Blindness & the True Burden of Blindness

This report for the first time summarises the true cost of global blindness. A recent study conducted by Kevin Frick, *Johns Hopkins Bloomberg School of Public Health (USA)* and Allen Foster, *London School of Hygiene and Tropical Medicine (UK)* 'The Magnitude and Cost of Blindness: An Increasing Problem that Can Be Alleviated'





is expected to be published in the next few months. The study concludes that VISION 2020 will more than half the number of blind persons worldwide, reducing the public health burden and increasing the productivity of a significant section of the population.

"The global number of people with blindness is projected to increase from around 45 million in the year 2000, to over 75 million by 2020. If the VISION 2020 initiative is implemented the projection is less than 25 million in 2020. This would save 100 million people from going blind and an estimated 400 million years of blindness between now and 2020. The economic productivity loss associated with blindness is conservatively estimated in the tens of billions of dollars per year. This will at least double over the next 20 years without VISION 2020."

Dr Allen Foster,

London School of Hygiene and Tropical Medicine and Vice President of IAPB.

The inability to see has far-ranging physical, emotional, social and economic consequences for the person affected as well as the family, and society at large. The economic burden for countries due to avoidable blindness and poor vision has only recently become a focus of attention of policy makers and public health professionals. VISION 2020: The Right to Sight aims to prevent avoidable blindness, to give all people with visual loss the opportunity to lead the fullest possible, independent lives.

The report also looks at a study conducted by an international group of researchers (Ralf Buhrmann, University of Ottawa Eye Institute; James Tielsch, Harry Quigley & Sheila West, Dana Center for Preventive Ophthalmology; Haran Mkocho, Helen Keller

Worldwide), where they found that blindness does indeed reduce life expectancy significantly in the developing world.

International Success Stories for the Elimination of Avoidable Blindness

Members of VISION 2020: The Right to Sight have achieved a number of notable successes through co-ordinated and focussed efforts. The initiative has already managed to pilot and implement the models and strategies needed to achieve the goal of eliminating avoidable blindness by the year 2020. This section of the report highlights just a few of these successes including:

- VISION 2020 - Generic Model of Comprehensive Eye Care for 500,000 Population over 5 years
- African Programme for Onchocerciasis Control (APOC)
- Launch of Vision 2020 Australia
- National VISION 2020 Committee in Paraguay
- US\$17.5 Million Grant from Government of Andhra Pradesh for VISION 2020
- VISION 2020 planning workshops in more than 10 countries per year

Specific Control Measures

VISION 2020 aims to eliminate the main causes of avoidable blindness. The report looks at each of the five core diseases: Cataract; Onchocerciasis; Trachoma; Childhood Blindness; Refractive Errors and Low Vision Services and explains how the VISION 2020 programme plans to eliminate blindness from these conditions.

Monitoring & Indicators

In order to place VISION 2020 firmly on the map as an important health initiative, trends need to be monitored and progress tracked towards achievement of set objectives. The report identifies the need to develop a set of common core indicators for use at different levels - Global, Regional and National. Currently available monitoring and surveillance systems within existing prevention of blindness programmes need to be improved and refined to address this need.



Conclusions

Based on the 1996 global population figures, it was estimated that there were 45 million persons who were blind and 135 million with low vision (the evidence suggests these numbers are growing at an alarming rate). Many reasons have been identified for the rising tide of blindness, prominent among them being the increase of the elderly population, the low output from existing services and the inadequacy of resources. These are compounded by a lack of awareness of the magnitude of the problem and also of the low cost and high effectiveness of the available interventions.

The far reaching developmental, social, economic and quality of life implications of blindness are there for all to see and have clear links to poverty and deprivation.

Despite the increasing number of blind people, the economic impact on society and the fact that the majority of blind people can have their sight successfully restored, blindness has not received the priority attention it deserves. The "killer" diseases such as HIV/AIDS, Malaria, and Tuberculosis, on the one hand, and Mental Health (in terms of its high DALY burden), on the other, have been singled out for greater support. Blindness not only exacerbates these problems, but is often a compounding risk factor in these and other diseases. It is well documented that blindness has known and cost-effective solutions and as such can be simply addressed, releasing valuable financial resources which could address more complicated health problems.

"It is crucial for governments to give their full commitment, at the highest level, in order to address this problem. Blindness is not only a health imperative; it is also a financial and moral obligation of our times. The increasing evidence and realization of the magnitude of the problem, its impact on development, and its implications on poverty and deprivation, should compel governments to undertake this challenge".

Mike Whitlam, *Chief Executive, IAPB.*

Introduction

This document is the first VISION 2020 annual review of the state of the world's eyes. VISION 2020: The Right to Sight features heavily in this initial document as it is the first time that such an initiative has focussed so specifically and globally on the Right to Sight.

This annual document does not intend to focus exclusively on VISION 2020: The Right to Sight, but will include information from other sources so that the report becomes a resource for all those who have a contribution to make to this vital area of work.

VISION 2020 welcomes the opportunity to incorporate information from all sources and hopes that readers will contact us with information that can be shared with others (contact details on page 3).



Global Overview

The Global initiative VISION 2020: The Right to Sight, was launched on 18 February 1999 in Geneva, Switzerland by Dr Gro Harlem Brundtland, Director General of the World Health Organization.

Vision:

To eliminate the main causes of avoidable blindness by 2020, in order to give all people in the world the RIGHT TO SIGHT.



Mission:

VISION 2020: The Right to Sight will, as a global partnership, achieve its vision through the development of three major platforms. These platforms have been selected in order to take the campaign to a wider audience and, in a way that generates new financial and other support.

- **RAISE THE PROFILE**, among key audiences, of the causes of avoidable blindness and the solutions that will eliminate the problem.
- **IDENTIFY AND SECURE THE NECESSARY RESOURCES** around the world in order to provide and increased level of prevention and treatment programmes.
- **TO FACILITATE THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF THE THREE CORE VISION 2020 PROGRAMME STRATEGIES** (disease control, Human Resource development and infrastructure development) by National Programmes.

VISION 2020: The Right to Sight has as its goal the elimination of all preventable and treatable blindness by the year 2020. This collaborative effort between the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) and its constituent members will enable all parties and individuals involved in combating blindness to work in a focussed and coordinated way to achieve this common goal.

VISION 2020 involves the active participation of UN agencies, governments, eye care organisations, health professionals, philanthropic institutions and individuals working together in a global partnership to accomplish this goal by the year 2020.

Global problem:

- There are 45 million blind people and 135 million with low vision, comprising a total of 180 million people with significantly poor vision¹
- 80% of blindness is avoidable (either treatable 60% or preventable 20%)
- 90% of the world's blind people live in developing countries; there are at least nine million blind people in India, six million in China, and seven million in Africa.
- People who live in the developing world are 5-10 times more likely to go blind than people who live in highly industrialized countries
- It is estimated that at least seven million people become blind each year
- Without proper interventions the number of blind will increase to 75 million by 2020
- Currently the priorities for eliminating avoidable blindness are cataract (an eye disease of ageing), eye infections (trachoma and onchocerciasis), visual loss in children, correction of refractive errors and low vision services
- Half of all blindness is due to curable cataract
- Other preventable causes of visual loss such as diabetic retinopathy and glaucoma can be included, on a country by country basis, depending on local priorities
- The treatments available for the prevention and cure of blindness are among the most successful and cost-effective of all health interventions

¹These numbers are based on 1996 population estimates

How will VISION 2020 help address the problem of global blindness?

Through the development and implementation of global, regional and national plans during the next two decades, VISION 2020 will take steps to prevent an additional 100 million men, women and children from becoming blind by:

- Increasing awareness of blindness as a major public health issue and campaigning for the Right to Sight for all people
- Increasing awareness among policy makers, donor countries and ministers of health in order to allocate more resources to eliminate global blindness
- Implementing specific programmes to control and treat the major causes of blindness
- Training ophthalmologists and other personnel to provide eye care
- Creating an infrastructure to manage the problem
- Developing and providing appropriate and accessible technology
- Integrating eye care into general health care services

Where is VISION 2020 working?

VISION 2020 has now launched in Western Pacific, Eastern Mediterranean, South East Asia, Africa, The Americas and Europe.

There are many countries within each of these regions that are now supporting and implementing the VISION 2020 programme, however there are still countries that need to commit to the blindness prevention initiative in order to help eliminate all avoidable blindness in their own region. VISION 2020: The Right to Sight aims to assist countries in establishing and implementing a national plan for Blindness Prevention.



Blindness prevention with and without VISION 2020

VISION 2020 aims to prevent an additional 100 million men, women and children from becoming blind over the 20 year period 2000-2020, resulting in a global saving of an estimated US\$150 billion. We believe this figure could be much higher when the indirect costs and less cautious figures are taken into account.

We also know that 80% of the world's blindness and visual impairment is avoidable and 90% of those affected live in the developing world. There are at least nine million people in India, six million in China and seven million in Africa who are blind or visually impaired. If a person lives in the developing world then (s) he is five to ten times more likely to go blind than people who live in the industrialised world. It is estimated that seven million people go blind every year and the trend – if not reversed – could take the world to 75 million blind people by 2020.

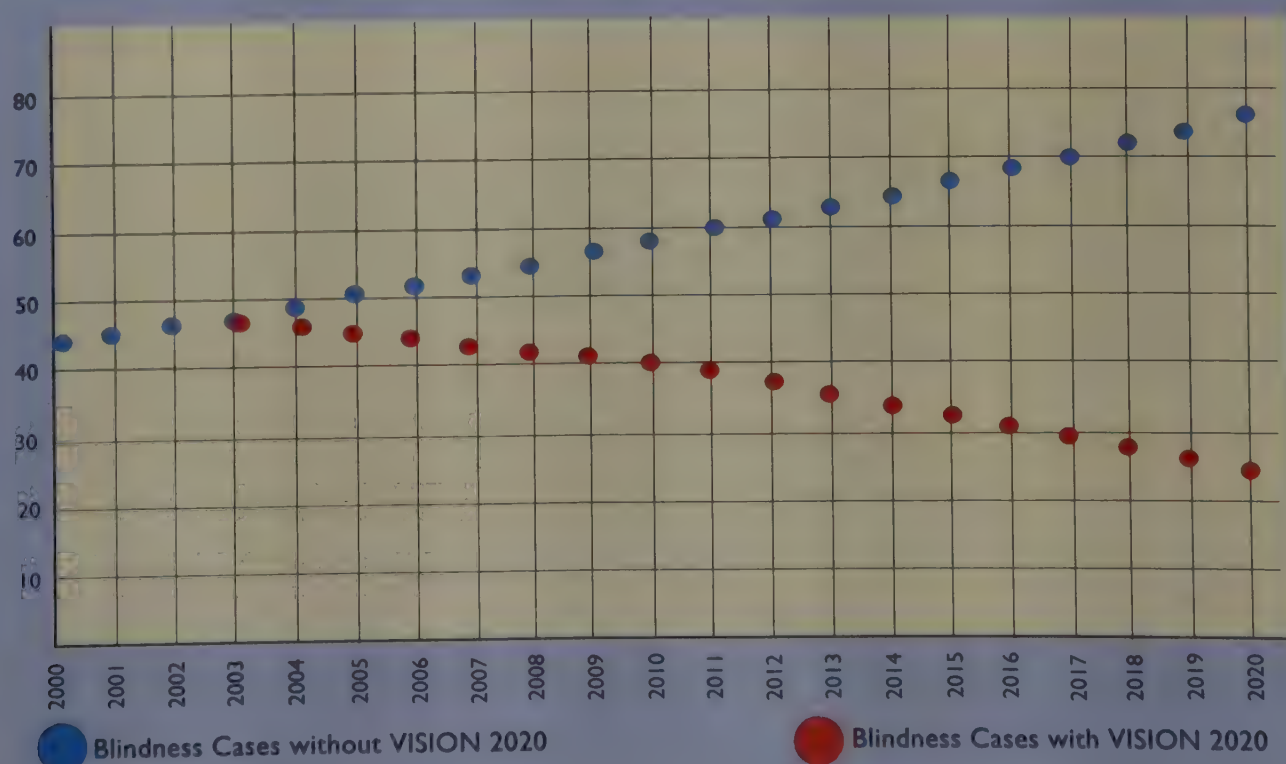
The example of India: The problem of blindness and visual impairment is a major public health issue in India. According to the recently conducted Andhra Pradesh Eye Disease Study (APEDS), 1.84 percent of people in the State of Andhra Pradesh are blind and another 8 percent or so have significant visual impairment. Together, this constitutes 10 percent of the state's population. If the same figures were to be extrapolated to the entire country, about 100 million people in India need attention for vision.

About 25-30 percent of the people in India above the age of 45 also need correction for near vision. In addition, a number of active people who have lower degrees of visual impairment also need correction to improve their vision and thereby increase productivity and quality of life. Cataract, Refractive Error, Retinal Diseases, Glaucoma, Corneal Scars and a variety of other conditions are responsible for visual impairment and blindness in India. 80 percent of this is either preventable or treatable with cost effective interventions.

It is estimated that the cost of blindness in India for every 1 million population is approximately US\$4 million per year. When one considers that the economic impact of blindness is affecting those countries that have the burden of poverty to contend with, then it seems to be even more important that the world challenges this problem.

Number of cases of blindness with and without VISION 2020

(projections for each year from 2000 to 2020)







Fortunately 80% of the world's blindness and low vision is avoidable and treatments available for the prevention and cure of blindness are among the most successful and cost effective of all health interventions.

Governments already have a duty or responsibility under the Universal Declaration of Human Rights and other legally binding treaties to provide their citizens with a sufficiently high level of healthcare to prevent people from being needlessly blind. So why do they not fulfill this obligation, particularly given the financial burden that blindness causes society?

A recent study conducted by Kevin Frick, Johns Hopkins Bloomberg School of Public Health, USA and Allen Foster, London School of Hygiene and Tropical Medicine, UK 'The Magnitude and Cost of Blindness: An Increasing Problem that Can Be Alleviated', (soon to be published in the USA), estimated that without any additional interventions the number of cases of blindness would increase from the 44 million in 2000 to considerably more than currently accepted estimates by 2020. Calculation of the global economic productivity loss due to blindness should provide a measure of the importance and potential impact of the programme and we expect to have this data available very soon. (The subject of 'Reducing the Cost of Global Blindness' is discussed in more detail on page 16 of the report).

The VISION 2020 campaign is one where the solutions are known and the expertise and knowledge is well documented. We owe it to the millions of needlessly blind and visually impaired people to make this campaign a success.

World Prevalence of Blindness (available data and estimates)

Prevalences	 <0.41%	 <0.6 - 1
	 0.4 - 0.6	 < 1%



Blindness, Poverty, Communicable Diseases, Ageing and Human Rights

If the Members of VISION 2020 are to succeed in the elimination of avoidable blindness by the year 2020, it is essential that we get the message across to the widest possible audience. This will then help make governments and the public understand that this is far more than just a health issue.

We can relate many of the main core diseases on which the VISION 2020 programme is concentrating to areas such as poverty, human rights, communicable diseases and ageing.

Trachoma, Onchocerciasis and Vitamin A deficiency (childhood blindness) are diseases affecting the poorest of the poor. They are indicators of poverty. They also particularly affect women and children. Apart from tackling the risk factors which contribute to trachoma, controlling blindness from trachoma will directly impact on poverty alleviation.

'Report on International Development Targets for Halving World Poverty by 2015'

Control of these diseases requires primary health care and community development – education, water, sanitation, nutrition and basic medicines. We are able to draw comparisons to these requirements to those highlighted in the recently published Department for International Development (DFID) 'Report on International Development Targets for Halving World Poverty by 2015' where they emphasize the need to improve environment.

The DFID report expresses that in order to achieve economic well being, we must reduce by one-half the proportion of people living in extreme poverty by 2015.

Social and human development will be handled by:

- Universal primary education to all countries by 2015
- Demonstrated progress towards gender equality and the empowerment of women by eliminating gender disparity in primary and secondary education by 2005
- A reduction by two-thirds in the mortality rates for infants and children under age 5 by 2015
- A reduction by three-fourths in maternal mortality by 2015
- Access through the primary health-care system to reproductive health services for all individuals of appropriate ages as soon as possible and no later than the year 2015

Environmental sustainability and regeneration will be achieved by:

- the implementation of national strategies for sustainable development in all countries by 2005, so as to ensure that the current trends in the loss of environmental resources are effectively reversed at both global and national levels by 2015.

DFID is the British government department responsible for promoting the development and the reduction of poverty, and is but one example of the many Government Development Agencies focusing on poverty alleviation targets under the auspices of the UN Millennium Development Goals. These goals are enshrined in a resolution that was adopted by the UN General Assembly at the Millennium Summit, Sept 2000.

Millennium Development Goals

- *Eradicate extreme poverty and hunger*
- *Achieve universal primary education*
- *Promote gender equality and empower women*
- *Reduce child mortality*
- *Improve maternal health*
- *Combat HIV/AIDS, malaria and other diseases*
- *Ensure environmental sustainability*
- *Develop a global partnership for development*

As in the VISION 2020 initiative, DFID seeks to work in partnership with governments which are committed to the international targets of their report, and seeks to work with business, civil society and the research community to encourage progress which will help reduce poverty. They will also work with multilateral institutions including the World Bank, United Nations agencies and the European Commission. VISION 2020 believes that this type of collaboration is the only way forward. It is why the VISION 2020 members have come together.

'Human Development Report 2002: Deepening Democracy in a Fragmented World'

This report examines political participation as a dimension of human development. It emphasises the importance of political freedoms as a goal of human development, and explores how democratic institutions help promote economic and social progress. It is vital that the work to eliminate avoidable blindness looks at the human rights issues relating to blindness. The Human Development Report is a good example of how to examine power, politics and human development and it presents the imperatives for continuous strengthening of democratic capacity within and across governments, institutions, and communities - rich and poor.

Politics is as important to successful development as economics. Sustained poverty reduction requires equitable growth – but it also requires that poor people have political power. And the best way to achieve that in a manner consistent with human development objectives is by building deep forms of democratic governance at all levels of society.

The core message of the 'Human Development Report' is that effective governance is central to human development, and lasting solutions need to go beyond narrow issues and be firmly grounded in democratic politics in the broadest sense. In other words, it is not democracy as practiced by any particular country or group of countries, but rather a set of principles and core values that allow poor people to gain power through participation while protecting them from arbitrary, unaccountable actions in their lives by governments, multinational corporations and other forces.

That means ensuring that institutions are structured and power distributed in a way that gives a real voice and space to poor people and creates mechanisms through which the powerful – whether political leaders, corporations or other influential actors – can be held accountable for their actions.

VISION 2020: The Right to Sight is looking for lasting solution through the implementation of national programmes. This initiative is aiming to give political power to those countries in particular need, creating opportunities for poor people to have a real voice and a mechanism to eliminate needless blindness. The three core mission objectives of the initiative, as set out opposite have been selected, in order to take the campaign to a wider audience and in a way that



generates new financial & other support.

- Raise the profile, among key audiences, of the causes of avoidable blindness and the solutions that will help eliminate the problem
- Identify and secure the necessary resources around the world in order to provide an increased level of prevention and treatment programmes
- To facilitate the planning, development and implementation of the three core VISION 2020 programme strategies (disease control, Human Resource development and infrastructure development) by National Programmes.

'The State of the World's Children Report 2002'

The 2002 issue of 'The State of the World's Children' report calls for leadership from all continents and all sectors of society, something that can be directly related to the core values and mission of VISION 2020. Vitamin A deficiency, the main cause of childhood blindness, also causes child mortality and is therefore part of child survival health programmes.

The State of the World's Children report illustrates the many and varied ways that people have shown their commitment to children's welfare. The report emphasises the need to give children the best possible start in life, to ensure that every child completes a basic education, and to involve children - adolescents in particular - in the decisions that affect their lives.

The report notes that no single government or organisation can achieve those goals on their own, but together we can build a world fit for children. VISION 2020 involves the active participation of UN agencies, governments, eye care organisations, health professionals, philanthropic institutions and individuals working together in a global partnership to accomplish the goal of eliminating the main causes of avoidable blindness in children by the year 2020.

'Building Partnerships: Cooperation between the United Nations system and the private sector'

The need to work together, as VISION 2020 is striving to do, can be related to many organizations aiming to rid our society of unnecessary suffering. This is clearly indicated in the 'Building Partnerships: Cooperation between the United Nations system and the private sector' publication, as this extract explains:

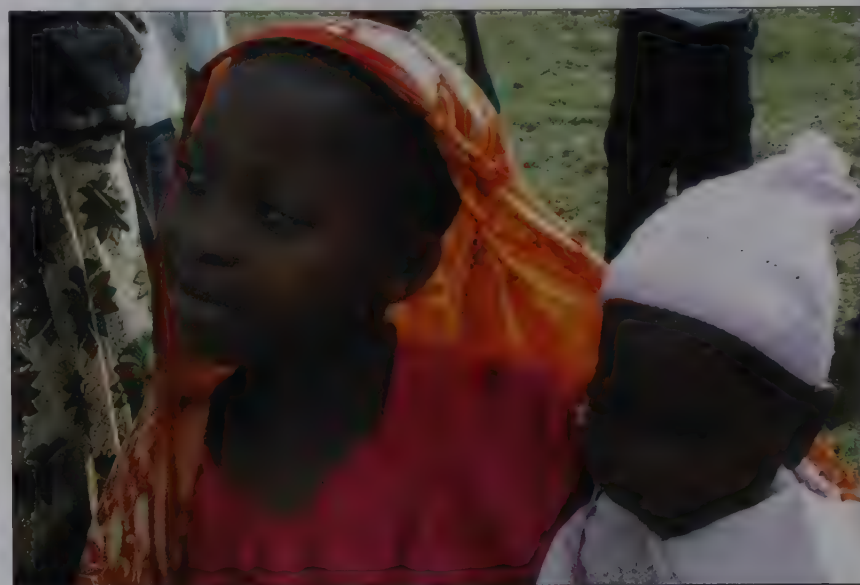
In these challenging times, the United Nations and its Member States have a more important role than ever. But governments and inter-governmental bodies can no longer 'do it alone'. They must reach out to business and civil society as never before. Within the context of clear regulatory frameworks and effective market mechanisms the private sector can offer new ideas, technologies and approaches to help governments tackle global challenges such as access to water, energy, capital and information technology, malnutrition, illiteracy, tackling disease, conflict and environmental degradation.

This publication provides the most comprehensive overview to-date of cooperation between the United Nations system and the business community aimed at addressing these challenges, including over 150 examples from around the world. It highlights both obstacles and opportunities and it makes a compelling case that despite the obstacles, partnerships between the UN system, governments, business and civil society organizations offer one of our greatest hopes for meeting the global challenges of the 21st century.

The treatments available for the prevention and cure of blindness are among the most successful and cost-effective of all health interventions. However, infrastructure development for the prevention of blindness is problematic in most regions except high economy countries. Human resources for eye care are reasonable in most parts of the world, except Africa where training and human resource development are the priority.

As concluded in the 'Human Development Report 2002', an abiding lesson of the past decade is that national political institutions are not keeping pace with the governance challenges of a more interdependent world. As new democracies struggle to lay the foundations of democratic governance, new forces and institutions are exerting powerful influences on people's lives. And new types of conflicts are proliferating within and between countries.

The need to act is clear. Still needed is the will to act in ways that cultivate democracy, advance development and expand human freedoms around the world.



Dr Gro Harlem Brundtland, Director-General of the World Health Organization, believes that the only way to reduce the global burden of blindness is a meaningful worldwide partnership.

"Blindness represents a serious public health, social and economic problem for our Member States. It is especially true for the developing countries, where 9 out of 10 of the world's blind live. VISION 2020 is about partnership... We must be able to reach out and form new partnerships to broaden the range of collaborators also from fields not directly involved in health care."

Reducing the Cost of Global Blindness

"The global number of people with blindness is projected to increase from around 45 million in the year 2000, to over 75 million by 2020. If the VISION 2020 initiative is implemented the projection is less than 25 million in 2020. This would save over 400 million years of blindness between now and 2020. The economic productivity loss associated with blindness is conservatively estimated in the tens of billions of dollars per year. This will at least double over the next 20 years without VISION 2020."

Dr Allen Foster, London School of Hygiene and Tropical Medicine and Vice President of IAPB.

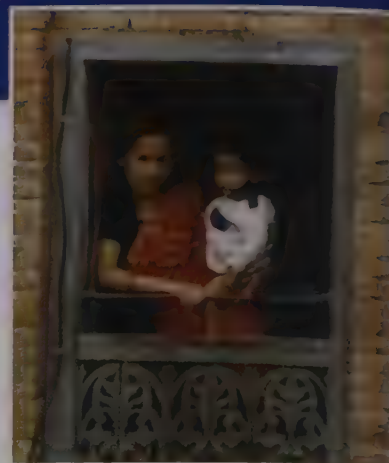
The inability to see has far-ranging physical, emotional, social and economic consequences for the person affected as well as the family, and society at large. The economic burden for countries due to avoidable blindness and poor vision has only recently become a focus of attention of policy makers and public health professionals. VISION 2020: The Right to Sight aims to prevent avoidable blindness, to give all people with visual loss the opportunity to lead the fullest possible, independent lives.

Calculation of the global economic productivity loss due to blindness should provide a measure of the importance and potential impact of the programme. The study 'The Magnitude and Cost of Blindness: An Increasing Problem that Can Be Alleviated', (soon to be published in the USA), estimated that without any additional interventions the number of cases of blindness would increase from the 44 million in 2000 to considerably more than the currently accepted estimates by 2020. The study concludes that VISION 2020 will more than half the number of blind persons worldwide, reducing the public health burden and increasing the productivity of a significant section of the population.

The cost associated with blindness worldwide has many facets. These include:

- The costs of rehabilitating individuals who are blind so that they may become as productive as possible, and in some settings, as productive as sighted members of society
- The costs of preventing blindness
- The additional medical care costs for individuals who are blind relative to those who are not
- The loss in economic productivity associated with blind individuals who are not accommodated to be as productive as possible

The loss in economic productivity of those who provide informal care to blind individuals who are not accommodated and, as a result, unable to care for themselves.



In some cases, the costs (such as preventing blindness) are accompanied by a benefit (decreasing costs of additional medical care for those who are blind decreasing the cost of accommodation of blind individuals, and decreasing the economic productivity loss associated with un-accommodated blind individuals). Similarly, paying the costs to accommodate blind individuals will decrease the economic loss associated with un-accommodated blind individuals.

The researchers used a combination of existing data and projections for blindness prevalence, GDP per capita, labour force participation, and unemployment rates to project the number of persons blind and the economic productivity loss, without and with the VISION 2020 initiative.

Previous estimates of the economic productivity loss have performed calculations at a large regional level and used measures of economic productivity that are averages for the large regions. These regions are either subcontinents (e.g. sub-Saharan Africa) or larger areas such as all the low income countries in the world.

The prevalences figures that were published in 1995 show the prevalence at a regional level. Readily available information on the population of each country can be combined with the prevalence figures to project the number of blind individuals at present and into the future assuming that the prevalence does not change. Available data can also be used to make predictions of the number of blind individuals if the prevalence of blindness were to change. Combining the number of blind individuals with a measure of economic productivity within each nation allows for the estimation of the economic loss associated with blindness in each country. These figures can then be summed up to regional levels.

Blindness and low vision are public health problems that, in the absence of intervention, will increase because of global demographic trends. VISION 2020 aims to eliminate avoidable blindness from five main diseases. If successful these interventions will sharply cut down the number of blind persons worldwide,

reducing the public health burden and increasing the productivity of a significant section of the population. Prior estimates suggest that the economic productivity loss associated with un-accommodated blindness is likely to be in the billions of dollars each year.

New estimates based on the data sources outlined above and which are likely to be more precise than previously published estimates, are expected, despite being more conservative, to reinforce this.

The True Burden of Blindness

The burden of diseases causing blindness has been grossly underestimated. For years, the struggle with onchocerciasis, or river blindness, has epitomised Africa's fight against avoidable blindness. However, other vision-threatening conditions are also serious issues in the continent and in the rest of the developing world. A series of studies by an international group of researchers (Ralf Buhrmann, University of Ottawa Eye Institute; James Tielsch, Harry Quigley & Sheila West, Dana Center for Preventive Ophthalmology; Haran Mkocha, Helen Keller International) has shown that vision loss is a central concern requiring attention if the productivity and quality of life in these regions is to be enhanced.

The researchers examined and interviewed 3268 villagers from the Kongwa district in Tanzania and followed them up for three years, recording deaths and

illnesses during the period. The aim was to look at the relationship between vision loss and mortality (for reasons other than onchocerciasis). After adjusting for several variables, they found that vision loss is indeed an influencing factor of mortality in the developing world.

VISION 2020 programmes in each region draw upon such research findings to set priorities and targets. Since much of the burden of blindness is carried by the developing world, it is important to look beyond the usual suspects and develop aggressive strategies to deal with the problems.

Blindness is an increasing problem causing loss of quality of life to the individual, and an economic burden on the individual, family and society in general.

International Success Stories for the Elimination of Avoidable Blindness

Members of VISION 2020: The Right to Sight have achieved a number of notable successes through co-ordinated and focussed efforts. The initiative has already managed to pilot and implement the models and strategies needed to achieve the goal of eliminating avoidable blindness by the year 2020. This section of the report highlights just a few of these successes including:

VISION 2020 - Generic Model of Comprehensive Eye Care for 500,000 Population over 5 years

The example given overleaf is based upon model projects, which have been developed in India. These models have demonstrated that new eye services can be established for under-served communities and provide quality affordable eye care. The external support required for each VISION 2020 centre has been estimated at approximately \$500,000 over 5 years for

each 500,000 population. This figure will vary from situation to situation depending on what is already in place and the local economic circumstances.

Objectives

The overall objective is 'Comprehensive and Sustainable High Quality Eye Care to all people'.

- 500 cataracts per year by year 5 and 1000 per year by year 10
- Correction of refractive errors in school children
- Community eye care with cataract case finding
- Control of any focal blinding diseases e.g. trachoma
- Financial sustainability for running costs by year 5
- Eye care delivery through 'Eye Care Team' approach
- Community based rehabilitation
- Appropriate reference

Budget

\$500,000 over 5 years for 500,000 population

Item	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Infrastructure	100,000	10,000	10,000	10,000	10,000	140,000
Training	60,000	10,000	10,000	10,000	10,000	100,000
Running Costs	60,000	60,000	45,000	30,000	15,000	210,000
External Advice	10,000	10,000	10,000	10,000	10,000	50,000
Total	230,000	90,000	75,000	60,000	60,000	500,000



Infrastructure Development (as required)

- Slit lamp microscope
- Ophthalmoscopes
- Retinoscope, Trial lens set
- Operating microscope
- Surgical cataract instruments
- Biometry equipment
- Administrative equipment
- Facility construction or renovation
- Vehicle

Human Resource Development - Training

- Surgeon in IOL surgery
- Ophthalmic assistants/Nurses
- Refractionists
- Manager
- Support staff
- Community workers

Running Costs

- \$ 5000 per month
- allowances, consumables, with revolving fund for medicines & spectacles
- gradually decreasing from 100% in yr. 1 and 2 to 75%, 50% and 25% in yr. 5
- income generation over 5 years to meet running costs (where feasible)

External Advice

Monitoring, Advice, Evaluation by Tertiary Support Hospital

African Programme for Onchocerciasis Control (APOC)

The remarkable success of the Onchocerciasis Control Programme (OCP) started in 1974 and due to finish in 2002, led to the establishment in April 1996 of the African Programme for Onchocerciasis Control (APOC). APOC extends the area of onchocerciasis control into 19 remaining African countries endemic with river blindness that were not included in the OCP.

APOC consists of 80 development partners. The programme is implementing community-directed treatment systems with the drug, Ivermectin. By its completion in 2007 it will be treating 60 million people per year. Subsequently, these distribution systems will become entirely self-sustaining.

The 19 African member countries participating in APOC are: Angola • Burundi • Cameroon • Central African Republic • Chad • Democratic Republic of Congo • Equatorial Guinea • Ethiopia • Gabon • Kenya Liberia • Malawi • Mozambique • Nigeria • Republic of Congo • Rwanda • Sudan • Tanzania Uganda.

Why a new programme?

- Approximately 40,000 new cases of blindness occur annually in the 19 countries outside the OCP area due to onchocerciasis. At least 16 million people currently living within the APOC countries are heavily infected with the parasite and experience symptoms of morbidity and impending blindness
- About 60 million people are at risk of contracting the disease in these 19 countries
- World Bank analysis, updated by Emory University in September 1999, estimates that APOC has a lower-



bound economic rate of return of 25% - highly respectable in net of economic returns for any type of development project

- APOC will protect the donor community's substantial investment in OCP. By controlling onchocerciasis in Nigeria, APOC will protect the entire eastern flank of the OCP sub-region from re-invasion of the disease

The overriding objective is to rid the remainder of Africa (i.e. in the African countries outside of the boundaries of the Onchocerciasis Control Program) of onchocerciasis as a disease of public health importance. The intended beneficiaries consist of 60 million people living in 19 countries in Africa (outside the West African OCP area) that are infected with onchocerciasis or are at immediate risk of contracting the disease. The principal strategy of APOC is the establishment of sustainable Community-Directed Treatment with Ivermectin (CDTI) systems to ensure that a high proportion of the at-risk population receives the drug at least once a year. The beneficiaries comprise the poorest segments of society throughout the 19 countries.

Programme activities include disease assessment, surveillance, vector control, where appropriate, training and distribution of Ivermectin. The affected communities manage the annual treatment programme with Ivermectin, given free of charge by Merck and Co, with support from the health service structure and non-governmental development organisations (NGDOs).

Eighteen million people had received annual treatment with Ivermectin by end May 2000. Over 34,440 communities have begun to be actively involved in planning and managing the distribution of Ivermectin. The aim is the distribution of Ivermectin to 60 million people per annum, thereby protecting them from the devastating

consequences of onchocerciasis. To date, 63 projects in 14 countries are operational, some of them already in their fourth year. APOC's strategy of CDTI is now being adopted as a model in developing other community based programmes, and is an entry point in the fight against other diseases of public health importance. The programme has further developed useful new techniques, tools and models with the potential for wider application, such as participatory monitoring, cost recovery, and handling side effects in mass distribution programmes.

Through its efforts, the programme has positively influenced the health services in the participating countries in a variety of ways. Capacity is being built, resources provided and enthusiasm and motivation generated. APOC has also established a large number of partnerships at different levels, between Ministries of Health, NGDOs, donors, private sector and civil society, where stakeholders pool their ideas and resources in planning and executing the common program.

The expected outputs for the programme are:

- APOC will prevent an estimated one million cases of blindness (between 50,000 and 80,000 per year over 12 years)
- APOC will make an estimated 7.5 million additional years of productive labor available to the economies of affected countries
- Establishment of sustainable community-directed drug delivery systems in each of the target countries within a period of eight years. By 2000, National Onchocerciasis Task Forces (NOTFs) and communities, assisted by other partners, had established CDTI systems in 91 % of its projects
- Local capacity building: Developing the capacity of local endemic communities, government personnel, and local NGDO staff through training helps to ensure sustainability of APOC's activities. During the reporting period, a total of 117,757 people acquired additional knowledge and skills through training via APOC
- Approximately 50,000–80,000 cases of blindness would occur annually in the APOC area if Ivermectin were not distributed. People who become blind due to onchocerciasis live, on average, an additional 8 years with blindness and then die 12 years prematurely. Hence, the prevention of one case of blindness may add, another 20 years of productive life to an individual

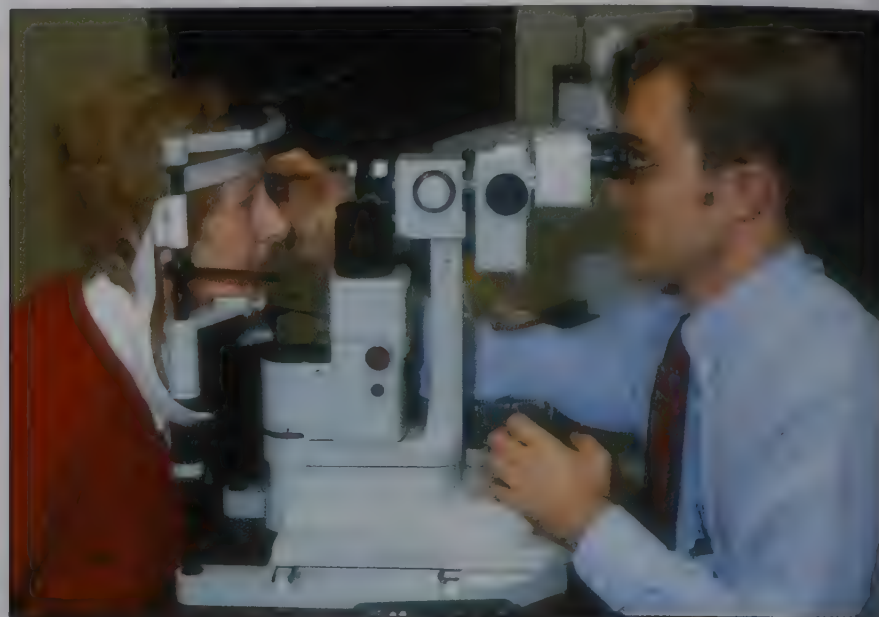
Launch of Vision 2020 Australia

Vision 2020 Australia is the national partnership of over 45 organisations committed to eye care service delivery, eye research, education and development, vision rehabilitation, professional assistance and community support. The facts which led to the establishment of this partnership are as follows:

- Eye disease and vision impairment increases three-fold with each decade of life after the age of forty
- People at greater risk of vision loss are older people and those with diabetes and family history OF EYE DISEASE
- Half of vision impairment is due to refractive error, which is easily corrected, e.g. an eye test and glasses
- 50% of the 60,000 blind people have conditions which are treatable or preventable
- 70% of the 400,000 vision impaired people have conditions which are treatable or preventable
- Australia is the only developed country with trachoma, a disease associated with developing countries
- Blindness and impaired vision in Aboriginal communities is up to 10 times higher than in the general community
- The total direct annual cost of blindness and vision impairment is estimated at AU\$2.1 billion

Vision 2020 Australia successes in 2001/2002 include:

- Formal launch and signing of declaration of support by Dr Gro Harlem Brundtland and the Australian Minister of Health in October 2000
- A subsequent signing by the Australian Minister for Health on behalf of the Prime Minister of Australia, the International Council of Ophthalmology, the World Health Organization, IAPB and Vision 2020 Australia at International Congress of Ophthalmology in April 2002
- Broad based consensus of the need and value of working together including collaborative programs, co-locations, joint fundraising and resources sharing
- Agreed need to deliver a coordinated and consistent message to the community, government and corporate stakeholders



- Dedicated organisational base with human resources to facilitate advocacy, policy and skills development, cultural and structural change, capacity building and partnerships
- An international organizational model and resources as the first endorsed VISION 2020 National entity
- Sharing of international and domestic program delivery by NGOs, particularly in the Western Pacific Region
- An endorsed National Eye Health Strategy endorsement for the first time by the sector
- The Vision Initiative, a new health promotion model developed through broad based consultation for delivery nationally commencing in Victoria
- Increased participation by Partners in committees, workshops, consultation, information sharing and representation
- Developed corporate image for promotion of one voice for vision
- Collaboration to promote World Sight Day
Proposals to IAPB/VISION 2020 to progress appropriate technology and information management



National VISION 2020 Committee in Paraguay

The implementation of 'VISION 2020: The Right to Sight' depends on the involvement of different stakeholders in strategic alliances and partnership at global, regional and national levels. National VISION 2020 bodies involving the public and private sector under a common framework to coordinate activities and improve efficiency in using resources are key to the success of the programme.

Paraguay formed the first National VISION 2020 Committee with legal status in the Latin America region in March 2002. VISION 2020: The Right to Sight was launched in the country during the celebration of the 50th anniversary of the Lions Clubs in Paraguay. Its members are the Ministry of Health, the National Society of Ophthalmology, Vision Foundation, Santa Lucia Foundation, Banco de Ojos Foundation, the ophthalmology department of the Clínicas Hospital, School of Medicine, ophthalmology service of the Social Security Hospital, the Army Forces Central Hospital and Lions Club.

The first activity of the Committee was the celebration of World Sight Day in 2001 when cataract surgery activities, diabetes retinopathy and general ophthalmology consultations were carried out in rural and urban marginal areas by the members of the VISION 2020 national body.

At present, the Committee is coordinating a pilot project in refractive error detection and a treatment campaign in Caaguazu, a department located 200 km away from the Capital, Asunción. Thus far, approximately 4,000 school children age 6-8 have been screened and 450 seen in eye consultation. Members of the Committee, Plan International and local industries, financed the initial steps of this pilot project. The programme plans to screen 530,000 children and provide eye consultation to approximately 60,000 of them. Visual acuity examinations and referral of those in need will be institutionalized at the Ministry of Education in order to work towards sustainability of the programme.

In a context where health care is very fragmented and concentrated in urban areas, VISION 2020: The Right to Sight is creating an environment where unity and focus in a social need will help improve the health of children from less privileged circumstances. Other countries in

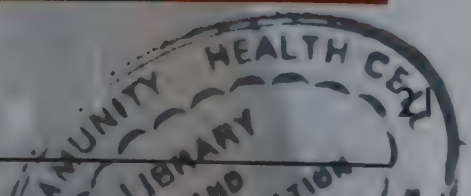
the region will follow this model and national eye health care plans will be formulated to look after the priorities for eye care in them.

US \$17.5 Million Grant from the Government of Andhra Pradesh heralds new hope for millions of needlessly blind

On 4 October 2001, VISION 2020: The Right to Sight was successfully launched in the state of Andhra Pradesh, India. In an immediate follow up to the launch it was announced that the Government of Andhra Pradesh will be allocating US\$17.5 million over the next five years to the VISION 2020 initiative.

Cataract surgeries and spectacle provision for refractive errors together with training and infrastructure will be the priority areas for the state of Andhra Pradesh during the first five years of the programme. It is planned to increase the number of cataract surgeries from the current 350,000 to 500,000 per year. Spectacles will be provided to school children and the elderly who have significant refractive errors. Ophthalmologists will be trained in surgery with an Intra ocular lens (IOL), training of new ophthalmologists will be revised and strengthened, and training for mid-level personnel and eye care managers will also be enhanced. Other areas of focus will be to strengthen existing infrastructures and to add new facilities where required.

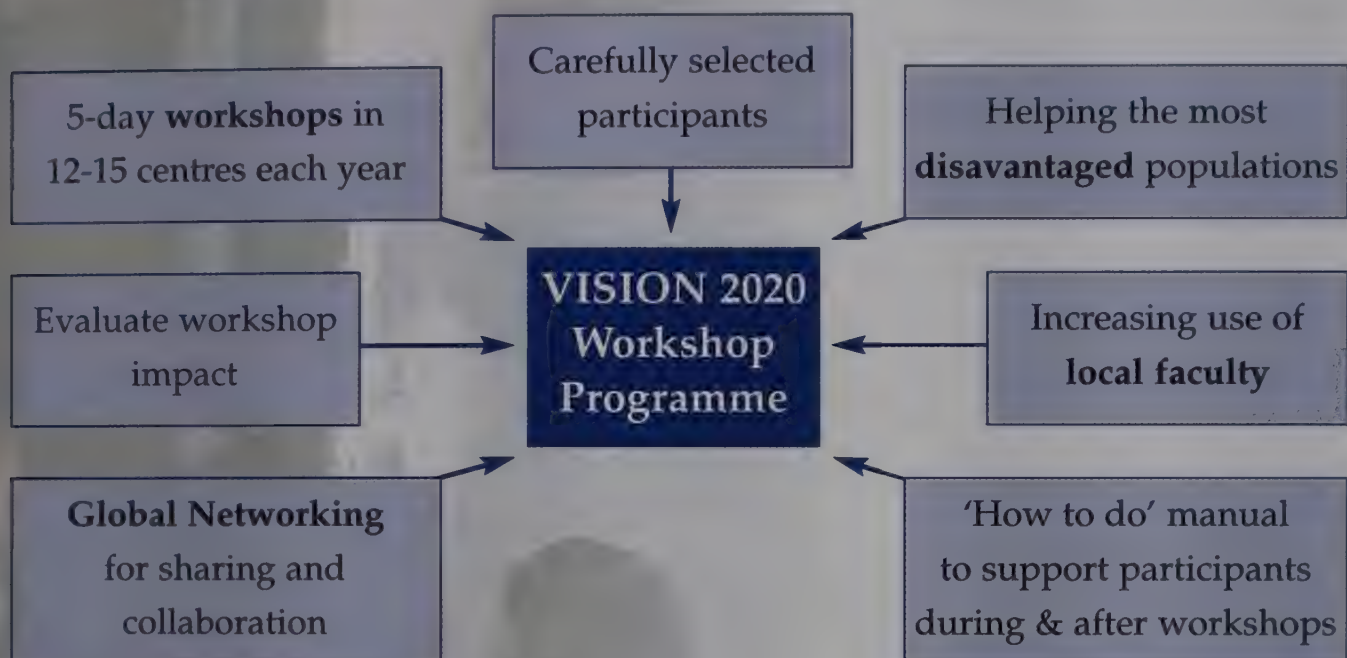
The momentum for the VISION 2020 programme in Andhra Pradesh is fantastic and the Government is moving with great enthusiasm. Both at the political and bureaucratic level, the support is exemplary. This kind of phenomenon augurs well for VISION 2020: The Right to Sight globally and it is hoped that this acts like a catalyst for other governments to get involved.



VISION 2020 Planning Workshops in more than 10 Countries per Year

The aim of this project is to inform, motivate and assist people in planning VISION 2020 projects in their own countries.

The strategy is summarised in this diagram:



The programme is planned as a shared responsibility between The London School of Hygiene and Tropical Medicine (International Eye Health Group) and its overseas partners in Asia, Africa, Europe and Latin America.

One major reason for the continuing increase in 'avoidable blindness' is the lack of trained health care professionals in the prevention and treatment of the five common diseases that lead to three quarters of all global blindness. These workshops focus on the identification of people with visual loss and the provision of surgery or spectacles for people with cataract or refractive errors (60% of visual loss) and on the prevention/control of trachoma, river blindness and nutritional blindness (15% of global blindness), as relevant to local communities.

Twelve workshops are being held in 2002:-

Queretaro, Mexico (February), Pretoria, South Africa (February), Aravind, Southern India (March), Bucaramanga, Colombia (April), Teresina, Brasil (May), Bandung, Indonesia (June), Hyderabad, India (June), Moshi, Tanzania (June), Calabar, Nigeria (July), Iguazu, Brasil/Argentina/Paraguay (September), Kinshasa, Democratic Republic of The Congo (November), Dhaka, Bangladesh (December).

It is important to ensure that the most disadvantaged people are prioritised to correct the lack of service equity prevalent in health service systems, characterised by under-resourcing. Examples include: extending screening camps into peripheral areas to increase case detection; the value of extending public health campaigns; the need for ophthalmologists to commit themselves to a region; and the need to expand the expertise of programme managers to

increase the sustainability of eye care services, supported by infrastructure improvement and appropriate technology, in previously marginal districts.

The involvement of a local and international faculty in workshop organisation and presentation has been a feature of the programme. Local organisation, knowledge and expertise clearly enable

workshop delivery to emphasize locally significant issues. As centres begin to evolve their own training courses to Certificate, Diploma or Degree levels in Community Eye Health, so the human resources to manage local VISION 2020 workshops will expand. For those areas where such provision is yet to be realised there is the opportunity, given financial support, to select individuals to be trained in VISION 2020 programmes at centres overseas.

As decisions are taken for 2003, the task is to ensure that the geographical extension and fine-tuning of this VISION 2020 Workshop Programme will make an increasingly valuable contribution to the provision of a well trained workforce in appropriate community eye care in countries of greatest need.

Specific Control Measures

Cataract:

Cataract, a clouding of the lens of the eye which obstructs the passage of light, is by far the major cause of blindness in the world. It has been estimated that to adequately control visual impairment and blindness from cataract at least 3,000 cataract operations are needed per million population per year. The Department of Health in the UK, for example, has risen to the challenge of an increasing backlog of un-operated cataract, and has produced a document called 'Action on Cataract'. The following table illustrates that many regions of the world are failing to reach a level of cataract surgery that controls visual loss due to cataract

Region	Cataract Surgical Rate - cataract operations/million pop/year
Africa	<150 -1500
Latin America	500 -2000
India	3700
Western Europe	2000 -6000
Eastern Europe	<1000
USA	Over 5000

In 1997 approximately 10 million cataract operations were performed globally, but at this level of service provision cataract blindness is increasing by over one million per year. In order to address cataract blindness the following targets have been set:

Year	Target for number of cataract operations/year	Target for cataract Surgical rate/million population/year
1995	(7 million)	(1100)
2000	12 million	2000
2010	20 million	3000
2020	32 million	4000

These targets may seem ambitious, but the majority of countries already have sufficient ophthalmologists, apart from most of Africa where there is less than one ophthalmologist for every million population. Output is not currently higher for a variety of reasons, including inadequate consumables, too few trained support staff, ophthalmologists who are not trained or involved in cataract surgery, and inequitable distribution of eye care services throughout the country. In situations where these constraints do not apply the number of cataract operations can be increased by improving efficiency (e.g. using two operating tables in the operating theatre; promoting day case surgery; using trained paramedics to prepare patients for surgery etc). National programmes, in making cataract surgical services a priority, will be encouraged to address these issues, and implement training and outreach activities (such as case finding as part of community based rehabilitation) that will increase the uptake of services.

In many countries poor visual outcome after cataract surgery is a major barrier to the uptake of cataract services, and increasing emphasis is being placed on quality as well as quantity. The global move from intracapsular cataract extraction with aphakic glasses to extracapsular cataract extraction with affordable Intra Ocular Lenses will almost certainly lead to an increased demand for cataract surgery, as has occurred in India.



Onchocerciasis:

Onchocerciasis (river blindness), which is caused by infection by the nematode worm *Onchocerca volvulus*, is endemic in SubSaharan Africa and parts of South America. The disease is transmitted by the *Simulium* species of black fly, which breeds in fast flowing rivers. Blindness results from sclerosing keratitis, chronic uveitis, optic atrophy, chorioretinitis, and secondary cataract and glaucoma. Up until the last decade or so control relied on larvicide spraying of black fly breeding sites, but now there is an effective drug treatment. Ivermectin was developed initially for the veterinary market, but it has been shown to be safe and effective at killing the microfilaria of *Onchocerca volvulus* in humans. Mass drug distribution programmes are now in place in endemic countries, and many millions of people are being treated every year. The drug only has to be taken once a year and communities take responsibility for their own treatment (Community Directed Treatment).

The fight against onchocerciasis illustrates what can be achieved with the right interventions.

The OCP programme, which started in 1974 and concludes in 2002, is well documented and found to have had the following results:

- 34m people protected
- 600,000 cases of blindness prevented
- 5 million years of productive labour added
- 25m hectares of arable land freed up
- 12m children spared the disease.

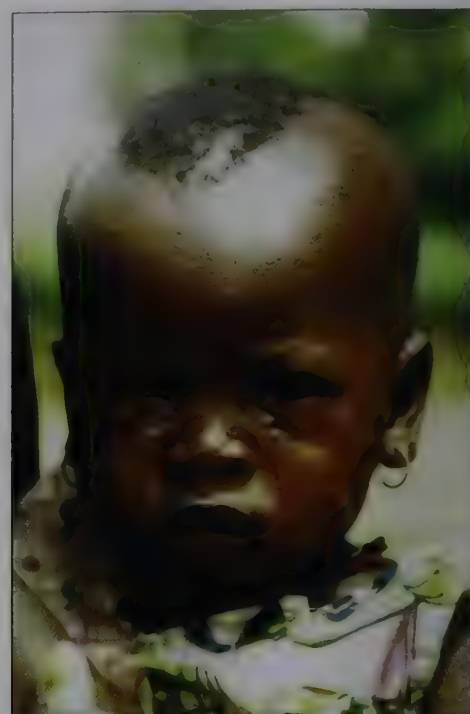
This represents a significant economic rate of return of 20%.

The APOC programme (African Programme for Onchocerciasis Control) which adds a further 19 African countries show a similar result with:

- 1 million blindness cases prevented
- 7.8 million years of labour added.

Again, this represents a considerable economic rate of return of 25%.

The APOC programme is previously featured in greater detail in this report under the 'International Success Stories for the Elimination of Avoidable Blindness' section (page 17).



Trachoma:

Trachoma is one of the oldest infectious diseases known to mankind. It is caused by *Chlamydia trachomatis* – a microorganism which spreads through contact with eye discharge from the infected person and through transmission by eye-seeking flies. After years of repeated infection, the inside of the eyelid may be scarred so severely that the eyelid turns inward and lashed rub on the eyeball. If untreated this condition leads to blindness.

Trachoma is another cause of blindness which affects the poorest of the poor, and where a community oriented approach is required for control. Infected children need to be treated with antibiotics; adults with trichiasis need lid surgery; and the underlying environmental and hygiene factors need to be addressed for long term control. The elimination of the disease simply requires a partnership that involves eye doctors, health educators, community development personnel and water and sanitation experts. The SAFE strategy (Surgery; Antibiotics; Facial cleanliness in children; Environmental hygiene) is being implemented in many countries where the condition is a significant cause of blindness. New developments include antibiotic treatment with Azithromycin, which, like Ivermectin, only has to be taken infrequently. It is anticipated that experience gained in onchocerciasis control (such as Community Directed Treatment) may also be relevant in trachoma control. The simplicity of the SAFE strategy has already proven effective in reducing active infection in trachoma endemic communities. Trachoma control activities are being co-ordinated under WHO's GET 2020 programme (Global Elimination of Trachoma by 2020).

Childhood blindness:

One of the most emotive and important problems that VISION 2020 seeks to address is childhood blindness. Every year, more than 500,000 children lose their vision and many die at an early age. More than 1.4 million children in the world are blind and, without interventions, the number will reach 2 million by 2020. As in adults, the majority of this blindness is preventable or curable. More than half these children are thought to die within a year or two, mainly as a result of the condition causing blindness. Globally, childhood blindness contributes to around 75 million blind years- translating into a huge economic burden on families and societies, not to mention the immeasurable loss in terms of quality of life to those affected.

The issues and causes related to blindness in children are different from those surrounding adult blindness and also vary by region, and therefore require different strategies and solutions. Avoidable and treatable causes of childhood blindness include corneal scarring due to a variety of nutritional deficiencies and infections, intrauterine factors, perinatal factors, measles infection, genetic diseases and harmful traditional eye medicines. A significant number of children with low vision could benefit from special services and devices that help them use their residual vision.



Vitamin A deficiency – blinding malnutrition – is the major cause of blindness in children and accounts for over 40% of childhood blindness. It is estimated 250 million pre-school children are vitamin A deficient, and each year 250,000 children go blind and 2 million children die simply from lack of vitamin A. At a cost of

only 5 US cents a dose, vitamin A supplements reduce child mortality by up to 34% in areas with vitamin A deficiency. Through the implementation of the VISION 2020 programmes, millions of vitamin A capsules have been directly distributed to those in need on an annual basis.

The VISION 2020 priorities for action to combat childhood blindness are:

- Elimination of Vitamin A deficiency
- Treatment of congenital cataract, glaucoma, retinopathy of prematurity
- Serious refractive errors
- Low vision

VISION 2020 programmes will address these through: Making eye screening an integral part of primary health care

- Developing specialist children's eye services, including surgery and low vision clinics
- School screening
- Human resource development

Managing and controlling blindness in children requires the active participation of many sectors of society, apart from health care workers. VISION 2020, in partnership with communities at many levels, aims to stimulate the creation of an appropriate, accessible eye care system that will take specific disease control measures and develop appropriate human resources, technology and infrastructure. To help as many children as possible to see their world and grow to become productive citizens, VISION 2020 seeks to establish a focussed partnership among health care providers, community leaders and legislators, educators, traditional medical practitioners, nutritionists, ophthalmologists and other eye care workers.

Refractive errors:

Uncorrected refractive errors and presbyopia pose an enormous unmet need in many parts of the world. An examination of vision and a pair of spectacles could restore sight for an estimated 100 million people with uncorrected refractive errors. However, access to the necessary correction is limited in many countries through a lack of trained optometrists and other providers and access to affordable spectacles of good quality.

A major accomplishment for those working to address this problem has been the high quality prevalence data produced by the Refractive Error Studies in Children (RESC) conducted in Chile, Nepal, China, India, and South Africa. This international, multi-centre study, technically supported by WHO, the US National Eye Institute and local implementing partners, has provided important comparable information about the refractive status of children between the ages of five and fifteen years. Data collected has shown that prevalence of refractive error varies significantly from one country to the next and peaks in the eleven to fourteen age group. The most dramatic need was in China where 41% of children aged 15 had significant refractive error of whom 58% had no spectacles.

WHO with the help of VISION 2020 has established a Refractive Error Working Group dedicated to the elimination of blindness and visual impairment due to refractive error and presbyopia. This group last met in April of 2002 to discuss a major review of the epidemiological literature and to begin work on the formulation of a global strategic plan. The group aims to determine the global magnitude and unmet need for uncorrected refractive error by reviewing existing population-based prevalence studies, including RESC, and to prioritise countries, populations, and age groups for intervention based upon this magnitude.

When finalised, the strategies to control and eliminate uncorrected refractive error will follow the VISION 2020 approach: provider training, introduction of appropriate technology and infrastructure development. In the area of human resource development, the Refractive Error Working Group has recommended, where locally appropriate, providing three cadres of personnel with increasingly sophisticated refraction skills and linking them through referral networks:

- community-based workers (community health and/or eye care workers, teachers) who direct local screening programs and oversee the selection of reading glasses

Contribution of uncorrected refractive error to the prevalence of blindness and visual impairment among children 5 to 15 years of age: Results from international RESC sites			
Study site	Urban/rural	Combined Prevalence of blindness ¹ and visual impairment ^{2,3}	Proportion of Children presenting with Blindness or Visual Impairment that is due to Uncorrected Refractive error
Santiago, Chile (<i>maul et al, 2000</i>)	urban	15%	63% of blindness 85% of visual impairment
Shunyi District, China (<i>Zhao, 2000</i>)	rural	11%	75% of blindness 93% of visual impairment
Andhra Pradesh, India (<i>Dandona, 2002</i>)	rural	2.8%	38% of blindness 70% of visual impairment
New Delhi, India (<i>Dandona, 2002</i>)	urban	5%	77% of blindness 83% of visual impairment
Mechi zone, Nepal (<i>Pokharel</i>)	rural	3%	22% of blindness 86% of visual impairment
Durban, South Africa	urban	results forthcoming	results forthcoming

¹ Blindness = visual acuity in the better eye equal to or worse than 20/200.
² Visual impairment= visual acuity in better eye equal to or worse than 20/40.
³ Prevalence of blindness was less than 1% in all settings.



- mid-level workers (such as nurses) who carry out basic refraction, complemented with training in the detection and management of common eye disease
- eye care professionals (optometrists, ophthalmologists, residents, etc) who are responsible for developing and teaching training programs and delivery of full vision care services

Appropriate technology will involve spectacle correction and examination instruments. Low-cost ready-made spectacles that can be dispensed on the spot are presently the most feasible solution from current options available. Programmes will develop supply chains to providers and access to regional optical workshops that can provide affordable custom-ground prescription spectacles for those individuals whose more complex refraction needs cannot be met with ready-mades. The hand-held basic retinoscope and trial lenses have been determined as the most appropriate examination instruments for providers with comprehensive refraction skills.

Members of VISION 2020 and their local partners are already showing early successes with these approaches. The International Centre for Eye Care Education (ICEE) has implemented a successful training model for nurses in Africa and Western Pacific countries. Their experience indicates that training nurses to provide basic refraction and primary-level eye care is an appropriate way to include introduce refractive services into existing eye and health care facilities. Some eye centres,

such as LV Prasad and Aravind Eye Hospital in India which previously concentrated on eye diseases, are now also providing refraction and dispensing facilities. The experience of existing centres has shown that refraction services can work toward community needs, increase the reputation of the service, and in some cases, be used to generate income.

Low vision:

Finally, 35 million people have low vision or permanent visual impairment. The solutions here are straightforward and cost effective, involving appropriate screening; magnifying spectacles and special optical (magnifiers and telescopes) and non-optical measures such as large print materials and devices, as well as rehabilitation training, seek to help those affected make the most of their residual vision.

The provision of low vision optical devices has been hampered not only by a lack of suitably trained staff, but also because devices are usually not locally available. Lack of awareness among practitioners as well as the general public is a major hurdle as many people in need are not offered services that could make an enormous difference in their daily lives.

This trend must be reversed so as to enable these millions of people to lead the fullest possible, independent lives.

Monitoring & Indicators

The global initiative, VISION 2020: The Right to Sight, realises that there is great a need to monitor the work and track progress within the eye care field, in order to raise awareness on an international level of the problem of global blindness.

The purpose of monitoring and identifying indicators for monitoring, is to help all partners, - member governments, WHO, IAPB and other stake holders, to track progress being made towards reaching the strategic objectives and the principal intermediate objectives that would be enunciated in National VISION 2020 plans.

These objectives are being set and quantified on the basis of four five year plans and updates. The overall objectives were determined at a global level, based on a broad consultation and consensus process, prior to the launch of VISION 2020 in February 1999, when the plan for the Global initiative was developed.

However, these globally set objectives (strategic and intermediate) are in need of refinement based on regional, and more importantly, national situations. These will then be incorporated into National VISION 2020 Plans of Action as they are produced or updated.

In order to monitor trends and track progress towards achievement of set objectives, there is a need to develop a set of common core indicators for use at different levels - Global, Regional and National. Currently available monitoring and surveillance systems within existing prevention of blindness programmes are not standardized and poorly developed.

With the launch of VISION 2020 as a global initiative, an intensification and acceleration of activities within the three major components (in the adjacent column), identified as strategic areas of intervention, was predicted. The need to track these activities and measure disease, as well as performance trends, cannot be over-emphasised.

- **Raise the profile, among key audiences, of the causes of avoidable blindness and the solutions that will help eliminate the problem**
- **Identify and secure the necessary resources around the world in order to provide an increased level of prevention and treatment programmes**
- **To facilitate the planning, development and implementation of the three core VISION 2020 programme strategies (disease control, Human Resource development and infrastructure development) by National Programmes.**

It is therefore imperative that a framework and indicators for monitoring be developed through a consensus process that could then be adapted and integrated into National Health Information systems.

It is the intention of the VISION 2020 programme to implement a refined "Framework and Indicators for Monitoring VISION 2020: The Right to Sight ", at the National, Regional and Global levels.



Conclusions

The direct economic cost of the global burden of blindness is estimated at more than US\$28 billion per year.

Based on the 1996 global population figures, it was estimated that there were 45 million persons who were blind and 135 million with low vision (the evidence suggests these numbers are growing at an alarming rate). Many reasons have been identified for the rising tide of blindness, prominent among them being the increase of the elderly population, the low output from existing services and the inadequacy of resources. These are compounded by a lack of awareness of the magnitude of the problem and also of the low cost and high effectiveness of the available interventions.

The far reaching developmental, social, economic and quality of life implications of blindness are there for all to see and have clear links to poverty and deprivation.

Blindness has profound human and socio-economic consequences in all societies. The cost of lost productivity, rehabilitation and education of the blind is a significant economic burden, particularly in many developing countries. Furthermore, in such settings, blindness is often associated with lower life expectancy. Thus, the prevention and cure of blindness can provide enormous savings and facilitate societal developments. Unfortunately there is generally a reduction in available funds for blindness prevention from the governments of developing countries, due to a combination of economic recession and new, competing demands for limited resources.

Needless blindness can be eliminated from the face of the earth only if people worldwide have access to sight-saving medical and surgical techniques. There is need for trained eye doctors and eye care teams, increased availability of ophthalmic equipment, instruments, and medicines, and more effective systems for referring patients who are at risk of blindness to treatment centres.

VISION 2020 aims to prevent an additional 100 million men, women and children from becoming blind over the 20 year period 2000-2020, resulting in a global saving of an estimated US\$150 billion.

VISION 2020's Strength Lies In Partnership

The key actors in this mission are:

- Eye-care personnel – ophthalmologists, ophthalmic assistants, nurses and optometrists
- International and National non-governmental development organizations
- National Ministries of Health and Departments of Health Services
- Corporate eye-care service providers.

They are all represented in the International Agency for Prevention of Blindness (IAPB). IAPB has formed an Executive Task Force to collaborate with the World Health Organization (WHO), in implementing VISION 2020.

What VISION 2020 Needs

- The dedication and expertise of the individuals in the partner organizations must be supported by significant financial inputs.
- Providing sustainable eye-care services to 1 million people will cost \$1 million in personnel, equipment, facilities and disease-control programs over a 5 year period.
- During the next 5 years, VISION 2020 aims to target 1,000 million of the poorest people of the world.

Each year, we need \$200 million, in addition to existing governmental contributions. The VISION 2020 coalition of NGOs will contribute about \$100 million. For the further \$100 million needed per year, we seek the generosity and support of the privileged world.

Most of humanity takes the gift of sight for granted. Yet no one values Vision more than one who has lost it. No one cherishes Sight more than one who has lost it and regained it.

The VISION 2020 programme is actively looking for more partners, particularly from outside the Eye Care field to join in our efforts to achieve the fundamental human right to the gift of sight for all.

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Regional Analysis

Appendix 1

Regions vary enormously and the information likewise. However, over the coming years it is planned to improve the collection system and persuade people of the value of sharing lessons learned. The VISION 2020 programme works in the six main WHO regions which are as follows:

Africa:

Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cape Verde; Central African Republic; Chad; Comoros; Congo; Côte d'Ivoire; Democratic Republic of the Congo; Equatorial Guinea; Eritrea; Ethiopia; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Mozambique; Namibia; Niger; Nigeria; Rwanda; Sao Tome and Principe; Senegal; Seychelles; Sierra Leone; South Africa; Swaziland; Togo; Uganda; United Republic of Tanzania; Democratic Republic of the Congo; Zambia; Zimbabwe

Americas:

Antigua and Barbuda; Argentina; Bahamas; Barbados; Belize; Bolivia; Brazil; Canada; Chile; Colombia; Costa Rica; Antigua and Barbuda; Argentina; Bahamas; Barbados; Belize; Bolivia; Brazil; Canada; Chile; Colombia; Costa Rica; NN; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador; Grenada; Guatemala; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; Puerto Rico; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Suriname; Trinidad and Tobago; United States of America; Uruguay; Venezuela

Eastern Mediterranean:

Afghanistan; Bahrain; Cyprus; Djibouti; Egypt; Iran (Islamic Republic of); Iraq; Jordan; Kuwait; Lebanon; Libyan Arab Jamahiriya; Morocco; Oman; Pakistan; Qatar; Saudi Arabia; Somalia; Sudan; Syrian Arab Republic; Tunisia; United Arab Emirates; Yemen

Europe:

Albania; Andorra; Armenia; Austria; Azerbaijan; Belarus; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; Czech Republic; Denmark; Estonia; Finland; France; Georgia; Germany; Greece; Hungary; Iceland; Ireland; Israel; Italy; Kazakhstan; Kyrgyzstan; Latvia; Lithuania; Luxembourg; Malta; Monaco; Netherlands; Norway; Poland; Portugal; Republic of Moldova; Romania; Russian Federation; San Marino; Slovakia; Slovenia; Spain; Sweden;

Switzerland; Tajikistan; Republic of Macedonia; Turkey; Turkmenistan; Ukraine; United Kingdom; Uzbekistan; Serbia/Montenegro

South East Asia:

BB; Bhutan; Democratic People's Republic of Korea; India; ; Bhutan; Democratic People's Republic of Korea; India; II; Maldives; Myanmar; Nepal; Sri Lanka; Thailand

Western Pacific:

Australia; Brunei Darussalam; Cambodia; China; Cook; Islands; Fiji; Japan; Kiribati; Lao People's Democratic Republic; Malaysia; Marshall Islands; Micronesia (Federated States of); Mongolia; Nauru; New Zealand; Niue; Palau; Papua New Guinea; Philippines; Republic of Korea; Samoa; Singapore; Solomon Islands; Tokelau; Tonga; Tuvalu; Vanuatu; Vietnam

Africa

The African region includes 48 countries with a total population of around 500 million. The region covers the African continent south of the Sahara and it is often divided into sub-regions of English, French and Portuguese speaking countries (official languages). This grouping is applied here.

Problems:

Africa includes many of the world's least developed countries and it has a particularly high disease and blindness burden. The overall prevalence of blindness in the region is around 1%, with cataract as the leading cause, followed by trachoma, onchocerciasis and childhood blindness.

Despite progress made in recent years in setting up national programmes and an increasing involvement of NGOs, there is still a dramatic need for increased resources, including more staff and facilities for eye care. It is estimated that only 10% of needed cataract surgical services are actually provided and there is a general difficulty of access to eye care throughout the region.

- Population: 700 million, 7 million blind, 20-21 million visually impaired
- Main causes of blindness
 - Cataracts approximately 4 million
 - Trachoma



- Glaucoma
- Childhood Blindness
- Onchocerciasis
- Refractive errors and low vision
- Limited access to eye health, especially for the rural population. Eye care workers are mal-distributed, based in urban areas while the blind are mainly in rural areas
- Poor eye care service delivery associated with insufficient manpower, inadequate resources, inadequate training and lack of management skills.
- Cataract surgical rates very low, approximately 400 per million population
- Weak or non-existent primary eye care sector in most countries
- Limited baseline data for decision making
Blindness prevention activities not coordinated in most countries
- Eye care is not a priority for governments and most have no policies

Objectives of VISION 2020 in Africa

- Improve coordination of VISION 2020 activities
- Improve quality and quantity of manpower
- Strengthen infrastructure and provide equipment for service delivery
- Improve and enhance service provision to address the major diseases

VISION 2020 regional launches

- French Speaking Africa on 25 February 1999
- English Speaking Africa on 19 April 2000

VISION 2020 country launches

- Kenya – June 2001

VISION 2020 workshops

- South Africa 1999, 2000, 2001, 2002
- Tanzania 1999, 2000, 2001, 2002
- Nigeria 1999, 2001
- Ghana 2000
- South Africa 1999, 2000, 2001
- Dr Congo 2002

Priorities for the next 2 years

- **Cataracts:** increase cataract surgical rate to 1000 per million population and ensure high quality surgery
- **Equipment and supplies:** encourage bulk purchasing of high quality cheap items to maximise the use of limited resources
- **Human Resource Development:** increase number and mix of manpower trained, deploy appropriately and retain
- **Coordination and partnership:** establish and strengthen coordinating mechanisms and partnerships in the region
- **Advocacy and resource mobilisation**

Achievements

- Several country launches, workshops and national plan development at varying stages
- February 2002 review workshop in Durban for all African countries at which regional priorities were determined
- June 2002 Advocacy meeting in Abidjan, for West Africa. Francophone, Lusophone and Anglophone countries decided to work together as one sub-region and defined priorities
- Eye health component of Health for Peace Initiative covering four neighboring countries of Guinea Bissau, Guinea Conakry, Senegal, The Gambia
- Conversion to ECCE and IOL and Training of Trainers ongoing

Americas

Past and present activities in the Americas have focussed on building up national blindness prevention programmes. Currently, a few countries have well-structured programmes but in many others activities are stagnant for a variety of reasons.

North America

The North American region of IAPB includes Canada, the non-Spanish speaking nations of the Caribbean and the United States of America. With a population in excess of 320 million, the region includes the richest and most powerful nation to ever exist as well as one of the world's poorest countries. VISION 2020 is alive and well in the region as can be seen in the following summary.

Canada:

The Ministry of Health has established a committee to coordinate activities in the area of blindness prevention and rehabilitation. The main areas for discussion are accessibility to specialty care in some of the less densely populated provinces, provision of low vision services and care to certain under served groups.

Caribbean:

The Caribbean Council for the Blind has played a crucial role in coordinating activities in the sub-region. The main targets for intervention are cataract, diabetic retinopathy, refractive errors and glaucoma. The Barbados Eye Study demonstrated that 3% of the population had vision impairment of worse than 6/60.

USA:

A recent study, "Vision problems in the US" (Prevent Blindness America, 2002), found that more than one million Americans over the age of 40 had vision worse than 6/60 and another 2.5 million had vision worse than 6/12. The leading causes of blindness include macular degeneration, cataract, glaucoma and diabetic retinopathy. Access to care is patchy, with a large part of the population without health insurance. Certain racial and ethnic differences in disease prevalence put some groups at particularly high risk for blindness.

The "Healthy People 2010" programme has targeted the control of blinding eye disease. In addition to the diseases mentioned above, it includes provision of low vision services as well prevention of eye injuries. The first National Planning Workshop is being sponsored by IAPB on October 10, 2002.

Latin America:

A regional programme has been formulated by the IAPB Latin America (LA) Regional Working Group for VISION 2020: The Right to Sight. This programme is based on a Pan American Health Organization (PAHO) document (New York 1999), emphasising an integrated approach to eye care, advocacy for eye health and development of alliances between key actors in prevention of blindness, including: governments, NGOs and national ophthalmology associations. Activities under VISION 2020 have so far focussed on human resource capacity

building, infrastructure and launching the initiative with official support.

From the VISION 2020 perspective, cataract – responsible for 40%-70% of all blindness in the region – is clearly priority No. 1 in all countries of the sub-region. It is proposed that action be taken so that all countries have cataract surgical rates of more than 2000 per million population. It is also proposed that a few VISION 2020 centres be identified and strengthened to undertake intensified service delivery and training of staff, both on an inter-country and on a national basis. Further, a short (five day) cataract management course for ophthalmologists should be disseminated in the sub-region, dealing with suggestions for local action to make use more efficiently of existing resources and to increase output and quality of cataract surgical services.

Another priority in the region is Retinopathy of Prematurity (ROP). Retina diseases count for 47% of childhood blindness in the region, from which ROP is responsible for 14-60% of cases. In absolute numbers Latin America region has 25,000 blind people due to ROP, the highest in the world. If all of them were counted as children we have a total of 1,625,000 blind years (25,000x 65 years) and income loss of US\$2,193,750,000 (monthly salary of US\$150 x 45 years of work x 25,000). These savings can be achieved implementing a programme for early detection and treatment of ROP, which will avoid the burden of unnecessary blindness and low vision of pre-term babies.

A third priority is to develop a few pilot projects for refraction and correction of school children, making use of auxiliary staff as appropriate. The prevention of childhood blindness could be strengthened in the sub-region through the identification of a network of pediatric ophthalmological services, for subsequent development of training schemes and for building national networks.

Problems:

- Population: 500 million. 2.5 million are blind and 7.5-10 million with low vision
- Main causes of blindness:
 - Cataract: 1.5 million
 - Glaucoma: 0.25 million
 - Diabetes : 0.25 million

- Refractive errors : 0.1 million
- Childhood blindness: 0.1 million
- Eye health care is limited especially for rural populations where also poverty, illiteracy, lack of roads and other factors increase inequities in the access to health care.
- Not all of the ophthalmologists in the area are trained for diseases that are prevalent in the region, i.e. not all of them do cataract surgery.
- Eye health care is not a priority for governments with few exceptions.

Objectives of VISION 2020 in America

- Create partnerships and alliances under the umbrella of VISION 2020 with all stakeholders: governments, national ophthalmology societies, NGOs, universities and the civil society to reduce the burden of blindness in the region and advance towards the eradication of all preventable blindness pathologies by year 2020.
- Form National VISION 2020 Committees that will work developing National VISION 2020 Policies and Programmes
- Strengthen human resources, infrastructure and equipment for service delivery
- Develop mechanism to finance eye health care

Country launches

- Caribbean - July 2000
- Brazil - Sept 2000
- Paraguay - March 2002

VISION 2020 Workshops

- Colombia – 1999, 2000, 2001, 2002
- Mexico – 2001
- Brazil – 1999, 2000, 2001 2002
- Argentina – 2002
- The IAPB Regional Working Group for VISION 2020 was established in Buenos Aires, July 2001
- Subcommittees formed in cataract, childhood blindness, advocacy and PR, information, monitoring and evaluation and resource mobilization

- PROVISION courses given since 1997-for year 2002 four courses are planned: Mexico, Colombia, Brazil and Foz de Iguacu (Argentina, Paraguay, Bolivia and Uruguay)
- Special courses are planned for 2002 in ROP and cataract surgery

Priorities for the next two years

- Cataract: increase CSR (at least 2,000 per million in all countries in LA) and outcome of surgeries to a visual acuity of at least 20/60 in 80% of operated eyes
- Childhood blindness: develop protocols and guide lines for refractive errors and ROP. Implement programmes in schools and neonatal units
- Increase financial resources allocated to eye health care

Cataract Surgical Rate in selected countries and regions in Latin America -2001 ¹			
Country/Regions	Total no. of surgeries	Total Population	CSR Per Million Population
1- Peru	14,000	20 millions	700
1.1 Arequipa (Peru)	900	1 million	900
2- Colombia	36,000	37.5 millions	1,000
2.1 Bucaramanga	3,900	1.9 millions	2,000
2.2 Atlantics	3,000	2.2 millions	1,363
3- Cuba	12,000	11 millions	1,090
4- Haiti	4,000	6.25 millions	637
4.1 Region x	500	769,896	649
5- El Salvador	4,000	6.25 millions	637
5.1 Region x	500	769,896	649
6- Paraguay	4,000	5.5 millions	727

Statistics from four regions in Cuba ²				
	Santiago Cuba	Ciego Avila	Pinar Rio	Pinar Rio
Population	1,300,000	500,000	730,000	2,190,000
No. of Ophthalmologists	66	17	24	277
No. of Surgeries	758	106	860	5,000
Surgical Techniques	EECC	EECC	EECC	EECC
CSR	583	212	1,178	2,282
Target no. of Surgeries for 2002	1,000	150	1,000	6,000

• In Ciego del Rio the majority of surgeries done without IOLs

Statistics from some states in Brazil				
	Bahia	Matto Grosso	Paraiba ³	Sao Paulo
Population	12 million	2.4 million	3.4 million	32 million
No. of Ophthalmologists	527	80	90	3,100
No. of Surgeons	150	45	30	1,000
No. of Surgeries done in 2001 ⁴	12,000	4,350	10,500	59,098
CSR	1,000/million	1,800/million	3,058/million	1,846/million
Surgical Technique	90% ECCE - IOL 10% FACO	80% ECCE - IOL 20% FACO	95% ECCE - IOL 5% FACO	60% ECCE - IOL 40% FACO
Target no. of Surgeries for 2002	15,000	2,550	10,272	47,052

	Rio Grande do Sul	Santa Catarina	Piaui
Population	10.1 million	5.3 million	2.8 million
No. of Ophthalmologists	541	218	90
No. of Surgeons	180	80	70
No. of Surgeries done in 2002	10,430	3,340	6,747
CSR	1,000/million	626/million	2,374/million
Surgical Technique	60% ECCE with IOL 40% FACO	60% ECCE with IOL 40% FACO	95% ECCE with IOL 5% FACO
Target no. of Surgeries for 2002	9,560	2,850	11,363

¹Survey done to participants of CEH courses Bucaramanga, Colombia 2002 • ²Survey done to participants of CEH course Teresins, Brazil 2002

³With fewer surgeons Paraiba would have done much better than Matto Grosso

⁴Surgeries carried out in the public sector under the cataract programme (SUS-Sistema Unico de Saude)

Success Story

Brazil

Cataract causes 40 to 50% of the cases of visual impairment in Brazil. It is estimated that the number of patients needing cataract surgery is 500,000 per year. Non corrected refractive errors also count for 40% of the cases. Other causes that count for less than 10% include glaucoma, retinal disorders (diabetic retinopathy, senile macular disease) and corneal infections.

In Brazil the number of ophthalmologists seems to be appropriate, about 8,000 for a population of 160 million, and more than 50% are doing cataract surgery. It is necessary to implement programmes to increase the number of surgeries. In most cases the use of the facilities (equipment and operating rooms) and human resources prepared to do cataract surgery are not efficient. A rational and more effective application of the resources is mandatory to reach more patients and it is necessary to push doctors and administrators to improve the performance of these services. If the services increase the number of surgery without new equipment and personnel than the cost per surgery will be reduced and more patients can get surgery.

As 70% of the population can not afford a private health plan, the majority needs the coverage by the Health Public System (SUS) and these efforts are contributing to decrease the number of visual impaired people in the country. To obtain better access to the health system it is necessary to increase

the number of eye examination appointments available to eye care in the health posts and create a reference system.

In Brazil the number of health personnel in eye care is scarce and there are few ophthalmic technician courses. The universities and medical schools should offer technical courses to provide the number of technical assistants in need to improve the performance of each ophthalmic service. The University of Campinas (UNICAMP) started a two month course for high school certified persons in 1990. This course is now offered four times a year, and has trained about 400 people. Also two day courses are offered to improve the skills of the auxiliaries already working and almost 2,000 workers have attended these.

In 1998 a national campaign for the prevention of blindness focussed in cataract surgery was completed in Brazil, coordinated by the Brazilian Council of Ophthalmology (BCO). As a result of the work of 2,000 ophthalmologists about 30,000 patients had vision restored either by surgery or by correction of refractive errors with free glasses.

The drive and motivation of pioneers in the field of public health ophthalmology have successfully influenced the government to support a national eye health care programme that is presently delivering a CSR of 1,000-3,000 per million population, reducing the backlog in cataract surgery. Diabetic retinopathy and treatment of refractive errors in school children are also important aspects of this programme which is now considered to be a model for the rest of the region and the world.

Eastern Mediterranean

The Eastern Mediterranean includes 22 countries with a total population of some 450 million. The region includes some of the poorest developing countries, along with some of the wealthiest in the world. Blindness prevalence ranges from 0.7% to 1.7% with cataract as a leading cause. Other diseases include trachoma, glaucoma and a significant problem of childhood visual disability, including blindness of hereditary origin.

Problems

The prevention of blindness has a longstanding tradition in the region, with a number of initiatives taken in the past, particularly against trachoma. There is presently a large backlog of people waiting for cataract surgery and no system for vision screening for schoolchildren. Most countries have national programmes but many of those need updating and more resources. There is active NGO collaboration in a majority of countries in this field.

As **cataract** is by far the leading cause of visual loss, priority activities and projects are as follows:

- a short course on cataract management (five days) for ophthalmologists, to increase output and quality of services
- a regional consultation on outreach cataract surgery, infrastructure needed and possible collaborative agreements between countries a "donors conference" or a meeting of interested parties (MIP) for the elimination of the cataract backlog

Trachoma:

- an inter-country meeting to adopt a declaration for the elimination of trachoma in the Region. This would be followed up by national task forces planning for full implementation of the SAFE strategy and for the needed staff, supplies and equipment for this

Childhood blindness:

- regional consultation should define priorities and opportunities, including a network of leading paediatric ophthalmological centres
- an inventory of childhood blindness in the region, through consultant visits

Refractive errors/low vision:

develop facilities for screening and correction of major refractive errors in schoolchildren
develop pilot models for low vision care, adapted to the regional needs and opportunities

Objectives of VISION 2020 in Eastern Mediterranean

- To continue to launch the VISION 2020 programme to cover the entire region
- To continue to promote awareness of specific eye problems in the region, and the prevention of blindness in general, using various types of media
- To target high priority areas, primarily waiting lists for cataract surgery, and vision screening for children

VISION 2020 was launched in Eastern Mediterranean in 2001

VISION 2020 country launches

Bahrain, 2001 • Jordan, March 2002 • Lebanon, 2001
Pakistan, February 2001 • Saudi Arabia, October 2001 • Sudan, February 2002 • Tunisia (Maghreb countries), October 2001 • United Arab Emirates, May 2002 • Yemen, February 2002

VISION 2020 workshops

- Pakistan 1999, 2000, 2001, 2002

Priorities for the next two years

- To reduce the current backlog of people waiting for cataract surgery
- To implement a system for vision screening in schools

Achievements

- New Eye Bank - The Eye Bank in the Syrian Arab Republic is now operational
- Dissemination of Information in the region - IAPB-EMRO continues its efforts to distribute information to ophthalmologists and those working in the field via newsletter, and its own website, which holds an archive of articles on blindness and its prevention, as well as information and news in ophthalmology.

Europe

The European region consists of 51 countries, with a population of 870 million. It is conveniently divided into Western, Central and Eastern Europe and it also includes eight Central Asian republics.

Problems

The blindness prevalence in Europe is generally around 0.3%. Few countries in Europe have national programmes for blindness prevention and, in general not much priority is given to this issue. The central /eastern part of the region, with the central Asian republics, is in great need of modern training and updating of facilities and procedures.

- At least 1.5 million people are needlessly blind in Europe and many more will lose their sight if urgent action is not taken
- The major causes of blindness and visual loss in the region are: cataract; refractive errors and childhood blindness – plus diabetic retinopathy and glaucoma
- Low vision services can often improve the quality of life and educational opportunities for children in blind schools in Europe
- The 29 countries of Central, Eastern Europe and Central Asia with a population of 475 million people are struggling with harsh economic realities which negatively impact on the provision of eye-care services, particularly surgery for people with visual loss from cataract
- They rely heavily on imported technology and pharmaceutical products and in many countries there remains a legacy of lack of investment in infrastructure, over-staffed institutions, high hospitalization rates and low salaries
- Although there are sufficient ophthalmologists in the region, many are not practicing cataract surgery
- Lack of training and continuing medical education. Few countries have optometrists and there are virtually no ophthalmic nurses apart from in the Western Europe countries

Objectives of VISION 2020 in Europe

VISION 2020 will act as a catalyst to improve matters, by addressing the problems of blindness in the European region through further training of personnel and improvement of technology in countries where the needs are greatest.

The VISION 2020 priority in the region is to increase rapidly the cataract surgical rate in the less advanced countries and to do this within existing infrastructure through the following activities:

- surgical fellowships for the less advanced countries, through 'twinning' and the conduct of itinerant training courses in surgery
- an inter-country course in hospital (eye care) management for the targeted countries

For diabetes, the priority here is better awareness about the disease and more effective referral of cases by:

- utilising the existing health educational material about the disease and to make it available throughout the region for the public and the professional audiences concerned
- creating an effective referral system in the less advanced countries, through a number of model projects in each country

Childhood blindness priorities include:

- an inventory of blind children and institutions, including possible low vision care to be conducted
- an inter-country workshop with experts to develop appropriate models for low vision care, to be implemented mainly within existing facilities in the less advanced countries
- The human resource developments needed include:
 - revision of ophthalmic curricula (IAPB, ICO and WHO)
 - organisation of surgical training courses
 - hospital and eye care management

Infrastructure and technology developments need:

- to initiate upgrading of facilities in 10 countries, through model projects

- to include the appropriate supplies and equipment for low vision care in the model projects, to the extent feasible.

VISION 2020 was launched in Europe in June 2001

VISION 2020 workshops planned

- Kazakhstan - 2003

Priorities for the next two years include

- Courses in VISION 2020 in Central Europe, Eastern Europe and Central Asia – will be known

as VISION 2020 Triplets and IAPB Europe will fund: 3 Ophthalmologists, 3 lectures for 3 days

- The preparation, funding and implementation of 3-4 model VISION 2020 projects within the region
Information on the number of blind schools and children, with a view to implementing the programme of assessment regarding the need for eye surgery and/or low vision aids and services

Successes include:

The launch of VISION 2020: The Right to Sight, UK - July 2002

South East Asia

The South-East Asia region includes 10 countries, with a total population approaching 1.5 billion. The region has a disproportionate share of global blindness, about one-third, for a quarter of the global population. It is thus a truly public health problem, with developmental implications.

The region has played a pioneering role in blindness prevention and the development of national programmes. There is also a long tradition of the NGO community being actively involved. All countries have national programmes but there is often a lack of needed resources.

Problems

- South East Asia has the greatest burden of blindness among all regions, with approximately 15.0 million blind people
- Over 12 million of the 1.4 billion people in South-East Asia are blind; another 36 million are visually impaired. Ninety percent of the blindness in this region is avoidable (preventable and curable)

- Blindness prevention and control programmes have helped to reduce the prevalence of blindness substantially

- The major obstacles in efforts to reduce the burden of blindness are the lack of adequate health care infrastructure, appropriate human resources and adequate funds

Cataract Blindness: Dealing with the backlog and new cases of cataract blindness remains the single most important challenge in this region. To deal with all these cases would require 4000 cataract operations per million population per year

Refractive errors: Up to 60% - 70% of visual impairment and blindness due to refractive errors can be addressed with appropriate optical correction. Training of personnel, the production of low cost spectacles and frames need to be undertaken

Childhood Blindness: Many causes of blindness in children in the region are preventable. Xerophthalmia can be prevented through distribution of vitamin A capsules and measles vaccination. Congenital cataracts may be prevented with rubella immunisation. Surgical facilities will also need to be expanded to cater to the specialised needs of children.

Infrastructure Development: Over the years, eye health services have expanded greatly in all countries of the region.

Human Resource Development: Ophthalmologist population ratio in some countries is satisfactory, however there is a serious shortage of eye specialists in others.

Regional and country launches meetings and assemblies:

- South East Asia Regional workshop and VISION 2020 launch - September 1999
- Jakarta, WHO South-East Asia Inter country Consultation on the development of regional strategies for VISION 2020 - February 2000
- Bangkok, The Regional Coordination Group meeting - March, 2001
- Hyderabad, IAPB-SEAR third regional assembly meeting - October 2001
- New Delhi, Inter-country consultation on comprehensive planning on Human Resources for Eye Care – December 2001

India

- New Delhi, Session on VISION 2020 at the Regional Committee meeting of WHO - September 2000
- Hyderabad, Community Eye Health Course for VISION 2020 Four workshops on Community Eye Health hosted by the International Centre for Advancement of Rural Eye-care (ICARE), L.V. Prasad Eye Institute were held in October 1999 to October 2000, July 2001 and June 2002 in collaboration with the International Centre for Eye Health, London, UK.
- Madurai, LAICO, Curriculum Development Workshop for management training in eye care service - July to August 2001
- Hyderabad, Launch of VISION 2020 state programme for Andhra Pradesh - October 2001
- Workshops/ Meetings organized by Government of India
 - Goa, National Launch workshop on VISION 2020: The Right to Sight - October 2001
 - New Delhi, "VISION 2020: Action Plan for India" - February 2001
 - New Delhi, Meeting of working group on VISION 2020: The Right to Sight - December 2001
- Madurai, LAICO, VISION 2020 Workshop - March 2002
- Madurai, IAPB Supported Management Training Courses at LAICO
- Hyderabad, Training of Paediatric eye surgery teams at LVP

Indonesia

- Jakarta, Community Eye Health course for VISION 2020 - June 2001
- Vision 2020 launched in February, 2000 at the palace of Vice President of Indonesia

Nepal

- Lalitpur, Nepal: Vision 2020 National Workshop - September 2000
- Kathmandu, Vision 2020 launched in November 1999, at Birendra International convention Centre National Situational Analysis study was carried out during the second quarter of 2001

Thailand

- Vision 2020 launched in May 2000 - Chiangmai

Bangladesh

- Chittagong, Vision 2020 / Community
- Ophthalmology workshop - October 2001

Sri Lanka

- VISION 2020 launched in September 2000 by the Ministry of Health during the congress of ophthalmologists of SAARC countries

Priorities for the next two years: Regional strategies are being developed through a series of consultations to be followed by national plans of action.

Western Pacific

The Western Pacific covers a vast area, including China, with more than 20 countries and close to 2 billion total population. The prevalence of blindness varies from 0.3% to 1.2%, as a reflection of the very diverse countries and conditions within the region.

The main cause of blindness in all the developing countries of the region is cataract, responsible for up to 80% of all blindness. Several countries experience a backlog of un-operated cases. Trachoma is still important in a few countries, as is vitamin A deficiency. Refractive errors pose a huge public health problem in some populations (Chinese) and there is a great need for low vision care developments in most countries.

Problems

- Conservatively estimated to be 8 million people blind which is over 20% of world's blind population
- WHO's largest region in terms of population, 27 member states
- 80% of blind population live in three countries - China, Philippines and Vietnam
- Blindness prevalence rates range from 0.5% to just over 1%
- Data are limited and until recently only available from only 7 countries (5 of these are developing)

- Most common cause of blindness is vitamin A deficiency in children, trauma in adolescents and cataract, trachoma and glaucoma in adults
- Cataract is responsible for over 50% of blindness in the region, like global trends
- Prevalence varies, with Vietnam being 10 times higher than Japan
- Cataract backlog is a major burden, China has over 2 million and Vietnam over 0.5 million un-operated cases
- An ageing population and increasing life expectancy will increase the burden
- Refractive errors pose a huge public health problem in some populations (Chinese), and there is a great need for low vision care in most countries
- National blindness prevention programmes exist, or are being developed, in most countries. Some programmes are, however, in need of updating and strengthening of activities.
- There is an active involvement of nongovernmental organizations in many countries, providing support to national programme implementation

Objectives of VISION 2020 in Western Pacific:

Develop national action plans and identify strategies to close the gap between existing services and the services required to achieve the goals of VISION 2020.

Specific goals:

- Reduce the cataract backlog in the region
- Improve coverage and uptake of cataract surgical services
- Trachoma control, with all endemic countries having (i) adopted the SAFE strategy (2002), (ii) performed TRA and defined location and management of the trachoma problem, (iii) brought the TF/TI prevalence in the one to nine year age group below 20% in ALL endemic communities (2006), and (iv) reduced the trichiasis prevalence to less than 1% by 2006
- Develop a network for paediatric ophthalmology in the Region, including agreements for country cooperation by 2004

- Plan and develop refractive services including projects for refraction assessment and correction by 2004
- Introduce or enhance low vision care for people with impaired vision
- Develop services to address diabetes retinopathy
- Coverage of eye care services for all population groups in the developing countries
- Training of mid-level personal

VISION 2020 was launched in Western Pacific in Beijing September 1999

Country launches

- China – September 1999
- Australia - October 2000
- Vietnam - March 2000
- Cambodia – November 2001
- Laos – February 2002

VISION 2020 workshops

- Australia, Beijing, Cambodia, China, Fiji, Japan, New Zealand, Laos, Singapore, Vietnam, Taiwan

Priorities for the next two years include:

- VISION 2020 launches, specifically Fiji, New Zealand, PNG and Singapore
- National, regional and sub-regional meetings to progress objectives, including a sub-regional forum in New Zealand in 2002
- Assist in the development of comprehensive national plans for VISION 2020
- Increase cataract surgery rates rapidly and improve quality of services
- A formal declaration to eradicate trachoma with a policy to adopt the SAFE strategy
- Pilot projects to address refractive errors in school children in selected countries
- Develop a network of institutions and countries for training in paediatric ophthalmology
- Support ongoing efforts for control of vitamin A deficiency in countries concerned
- Develop models for low vision care for implementation in developing countries

Case Study – Fiji

Fiji has a well structured government health system with three eye departments in divisional hospitals in the three major centres. Apart from the CWM Hospital in Suva the CSR is extremely low and eye care is not readily available outside the major centres.

In June 2002, Fiji demonstrated how a successful representative meeting can lead to partnership and action between key stakeholders. The stakeholder included eye care centres, Minister of Health/Public Health, private and public sectors, national and international NGOs and individuals. The participants worked together to consider the needs and develop priorities for eye care. The meeting enabled strong and effective partnerships to develop, provided an opportunity for cultural and attitudinal change and brought about a commitment to improve the eye care system. It was agreed that the formation of a VISION 2020 partnership would be the vehicle to deliver an improved eye health care system for Fiji – VISION 2020 Fiji. The meeting identified the strengths of the current system and gaps in provision of eye care throughout the country. Action will now include the development of proposals by the newly formed committee to gain funding and improve the delivery of eye care to Fijian people. An example of identified priorities is the need to train mid level eye care personal to support the work of ophthalmologists working in Fiji and the need to expand the new Lions supported low vision programme integrated into primary health care and in tertiary eye care centres.

Appendix 2

Who are the members of VISION 2020?
WORLD HEALTH ORGANIZATION (WHO) *

INTERNATIONAL AGENCY FOR THE PREVENTION OF BLINDNESS (IAPB) *

IAPB VISION 2020 TASK FORCE MEMBERS

In pursuance of its purpose to promote and sustain a global campaign against all forms of avoidable blindness, the International Agency for the Prevention of Blindness (IAPB) in co-operation with the WHO Programme for the Prevention of Blindness and Deafness (WHO PBD), has established a Task Force. The IAPB Task Force for VISION 2020 in collaboration with the WHO programme for Prevention of Blindness is responsible for the planning and implementation of the VISION 2020 programme including:

- Developing and co-ordinating global and regional work plans for the VISION 2020 programme
- Mobilising resources, prioritising & funding activities
- Advocating for, and assisting in, the development of national VISION 2020 programmes
- Collaborating with WHO in monitoring the VISION 2020 programme
- Protecting the logo & quality of VISION 2020 programme

AL NOOR FOUNDATION

CHRISTOFFEL-BLINDENMISSION (CHRISTIAN BLIND MISSION INTERNATIONAL) *

HELEN KELLER WORLDWIDE *

IMPACT-EMRO

INTERNATIONAL CENTRE FOR EYECARE EDUCATION

INTERNATIONAL FEDERATION OF OPHTHALMOLOGICAL SOCIETIES (IFOS) **

INTERNATIONAL TRACHOMA INITIATIVE

OPERATION EYESIGHT UNIVERSAL

ORBIS INTERNATIONAL *

SIGHT SAVERS INTERNATIONAL *

THE FRED HOLLOWS FOUNDATION

THE WORLD BLIND UNION ***

* Founding Members of VISION 2020 ** Founding Members of IAPB *** Founding Members of IAPB, but non-financial contributing Members of VISION 2020

IAPB VISION 2020 SUPPORTING MEMBERS

IAPB Supporting Members for VISION 2020 should be members of the IAPB Partnership committee and have a proven track record in Prevention of Blindness activities in more than at least two countries.

Supporting Members should have programmes in one or more of the priority activities of the global initiative and be willing to provide the task force with an annual update of their efforts to implement these activities. They are also responsible for promoting VISION 2020 and participating in joint promotional and programme activities together with other members.

AGENZIA INTERNAZIONALE PER LA PREVENZIONE DELLA CECITA

AMERICAN ACADEMY OF OPHTHALMOLOGY

ASIAN FOUNDATION FOR THE PREVENTION OF BLINDNESS

FOUNDATION DARK & LIGHT BLIND CARE

LIGHTHOUSE INTERNATIONAL

LIONS CLUBS INTERNATIONAL FOUNDATION

ORGANISATION POUR LA PRÉVENTION DE LA CÉCITÉ (O.P.C)

SCHWEIZERISCHES ROTES KREUZ (SWISS RED CROSS)

SEVA FOUNDATION

THE CANADIAN NATIONAL INSTITUTE FOR THE BLIND

THE CARTER CENTER

Vision 2020 AUSTRALIA

VISION 2020 - UK

There is also a global network of NGDO partners who are also part of VISION 2020 (this list is available on application from either the IAPB Chief Executive Office in the UK or the IAPB Secretariat, Hyderabad, details on page 3 of the report).



Seeing is Believing

Vision:

To eliminate the main causes of avoidable blindness by 2020, in order to give all people in the world the RIGHT TO SIGHT.

Mission:

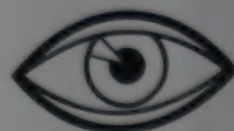
VISION 2020: The Right to Sight will as a global partnership achieve its vision through the development of three major platforms. These platforms have been selected, in order to take the campaign to a wider audience and in a way that generates new financial and other support.

- Raise the profile, among key audiences, of the causes of avoidable blindness and the solutions that will help eliminate the problem
- Identify and secure the necessary resources around the world in order to provide an increased level of prevention and treatment programmes
- To facilitate the planning, development and implementation of the three core VISION 2020 programme strategies (disease control, Human Resource development and infrastructure development) by National Programmes.



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VISION
2020
THE RIGHT TO SIGHT



INTERNATIONAL AGENCY
FOR THE PREVENTION
OF BLINDNESS

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